WESTERN REGION LIGHTWEIGHT MAIN-LINE DIESEL

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MODERN TRANSPORT

"THE TIMES" OF THE TRANSPORT WORLD

MECHANISED NORTH LONDON COAL DEPOT

See Page 10

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D800, *Sir Brian Robertson*

THE first main-line diesel-hydraulic locomotive, numbered D800, to be constructed in British Railways own workshops—at Swindon—has recently completed trials prior to introduction on the West of England route in the Western Region. The chairman of the British Transport Commission, Sir Brian Robertson, having given his consent to this locomotive being named after him, the nameplate on the engine was on July 14 unveiled by Mr. K. W. C. Grand, general manager of the Western Region, at a brief ceremony in Paddington Station. There Sir Brian was welcomed by Mr. R. F. Hanks, chairman of the Western Area Board, who paid a tribute to the work of the chairman of the Commission as the force behind railway modernisation. Locomotive D800 is a 2,200-h.p. eight-wheeled unit; it has been designed and constructed to the general requirements of British Transport Commission and many interesting features comparatively new to railway practice in this country are incorporated. Stressed-skin construction of the superstructure on a tubular frame combines with the high-speed engine and the transmission to make a light locomotive, so that its 78 tons tare in working order can be carried on four axles. The Western Region plan for the complete replacement of steam by diesel traction includes, as a first stage, the use of diesel-hydraulic locomotives on the majority of the passenger and freight services between Newton Abbot and Penzance and on many of the through trains between Paddington, Bristol and the West of England. This programme involves the replacement of over 200 steam locomotives by approximately 130 diesel-hydraulic main-line locomotives, D800, *Sir Brian Robertson* being the first of 33 of its type to be built at Swindon under the supervision of Mr. R. A. Smeddle, chief mechanical and electrical engineer of the Western Region. Its early performance is a good augury for the future.

Traffic Planning—for What?

NEWLY returned from their visit to West Berlin and Vienna, 22 members of the all-party roads study group in the House of Commons were this week loud in their praise of our Continental friends for making up their minds what needed doing with their city traffic problems and then going ahead with the construction of underpasses at overloaded intersections and throughways to accelerate the first or last stages of travel out of or into the inner zone. The visit was organised by the Roads Campaign Council. Mr. Ernest Davies, leader of the Socialist party of visitors, summed up the lesson for us in a few words: we needed a fresh assessment of our traffic needs and an overall plan for meeting them. The best way to achieve these aims was to appoint an expert working party and not to scorn the use of overseas traffic engineers, a breed which so far we have taken no pains to develop. But much road traffic planning, especially in cities, is planning for the unknown. Traffic has an unfortunate habit of outstripping the most generous estimates of its growth and there is no need to ask who is the principal offender. Is it not saner to cultivate a public opinion which acknowledges the merits of public transport as a mass provider? The London Transport survey of street traffic during the bus strike (page 9) rams home facts already well-established about efficient use of streets, whether they be broad or narrow—two-thirds more passenger vehicles on the streets, but 40 per cent fewer people riding in them. It really makes little difference whether this was wholly the consequence of the strike or partly the outcome of a steady increase in car usage in the Metropolis; the lesson is the same. So is the effect on average speeds—it was only when the first tide of extra cars turned that speeds began to rise above the normal with buses on the street. Provision of off-street parking is no more than a palliative if it releases an even greater flood on to the streets during the crucial peak hours.

CURRENT TOPICS

Warning to London Dockers

PAST experience of the intransigence of London dockers gives little encouragement to the hope that they will heed the warning of the Dock Labour Board that unless a greater sense of responsibility is exercised by all concerned fewer ships will use the port and employment will be reduced. The message is contained in a leaflet telling them of the serious effects on future trade prospects of recent unofficial strikes—those connected with the Covent Garden Market dispute last year and with the Smithfield Market dispute this year. It refers to "definite evidence" of a falling off in trade which must affect the volume of employment and the livelihood of every port worker. As an immediate result of the recent strike, 132 ships and their cargoes were lost to the docks and many more to the wharves. But even more serious is the permanent loss of trade to the port. "Some foreign shipping lines," it states, "have indicated their intention to use other ports in preference to London, and large importers of commodities such as fruit, provisions, tobacco and wine have arranged to go elsewhere; there is evidence also of a serious loss of export traffic." Writing to *The Times*, Sir William Currie, chairman of the P. and O., refers to a correspondent's complaint that urgent merchandise, shipped from the Far East to London in April, there neglected because of the strike and later declared "black" at Southampton, was still in the cruising vessel *Chusan* in some other part of the world. Sir William analyses the subject in all its stark and tragic stupidity. "Southampton dockers," he says "refused (unofficially) to work this cargo because London dockers had refused (unofficially) to work cargo, because London riverside cold-store men had refused (unofficially) to work meat, because London meat porters had refused (unofficially) to handle meat, because London meat van drivers had struck because their speed limit had been increased from 20 to 30 m.p.h. without a simultaneous increase in pay."

Trade Union Responsibilities

THE sequel to all this is equally ludicrous. The report of the committee of investigation appointed by the Minister of Labour describes the unofficial strike of lorry drivers at Smithfield Market as a "flagrant violation" of the constitution of the joint industrial council for London meat carriers. "If," it states, "we accept the assurance we received from the spokesmen for the union that the men were generally familiar with the constitution, the action which they took was all the more reprehensible. If, on the other hand, the men were not fully familiar with the constitution, it was the duty of the union to make them so." The committee also found that the union officials did not try vigorously enough to stop the strike, and it blames the union for not keeping members adequately informed. The report, in fact, is a severe indictment of the Transport and General Workers' Union, of which, incidentally, most of the London dock workers are also members. As Sir William Currie points out, unofficial strikes must cause damage to the unions concerned. "The great powers held by the unions," he says, "can only in the long run remain if used responsibly by their members as well as by their executives. The unofficial strikers, through misplaced loyalty or mere irresponsibility, are damaging no interests more seriously than those of the organisations which they claim to support. While this may be an attraction to some, undoubtedly it is not the intention of the passive majority." As he points out, one of the major problems of the day is the disparity between the authority of the trades unions *vis-à-vis* the public and their members respectively. One verges on the autocratic, the other on the anarchic, and the two do not go well together in harness.

A New Malleable Iron Foundry

WITH the opening of a second foundry, at Halesowen, Shotton Bros., Limited, a member of the Birfield group, will become one of the foremost producers of blackheart malleable iron castings. The firm is an old-established specialist in this work and, founded in 1894, it has been an important supplier to the motor trade from its Manchester Street Foundry at Oldbury for many years. Association with the Birfield group has strengthened the facilities for research and development with new technical and productive resources. The new plant, which we have been afforded an opportunity of seeing in service, occupies one-sixth of a 10-acre site in Halesowen. It is intended as the first of several similar units, each with a capacity of about 80 tons of castings weekly. Services and workflow are so arranged that a second plant could be installed along the north-west wall as a mirror image of the present one and the whole operated together. The layout provides for a high rate of production with a minimum of pattern equipment, but at the same time the plant can be adapted to short runs and, moreover, to short runs to special requirements, such as pearlitic malleable iron castings produced either by alloying or by heat treatment. Close analytical limits can be maintained despite the high degree of mechanisation and small amount of handling; the sand plant is completely automatic and turnover machines incorporate automatic control of the number of jolts in moulding. The pallet mould conveyor allows 30 minutes for cooling in its travel at 10 ft. a minute; this is sufficient to handle the heaviest castings expected. The knock-out station, like the rest of the factory, is designed to minimise dust and fumes. The annealing furnace is operated continuously, a sufficient stock of castings being built up each week to keep it going through the week-end. Quality control is impressive.

High-Voltage Laboratory

EVERY user of super-tension cables will benefit from the work of the new high-voltage laboratory of Enfield Cables, Limited, opened at Brimsdown on July 10 by Sir Henry Self, chairman of the Electricity Council. The test plant formerly used was built in 1926 and although it has given splendid service and has been modernised from time to time it was felt it could not meet the changing and ever more exacting needs of electricity transmission now obvious at home and overseas. So a great service has been done by starting afresh with a laboratory designed particularly to provide the meticulous tests of today and the foreseeable future. Briefly, there is an impulse generator of 2.4 mV output voltage and a stored energy of 120 kilowatt-seconds; the high-voltage alternating current testing plant has transformer-reactor units which can produce 600 kV at the moment; 900 kV could be made available by addition of one unit to the two available. The company was founded in 1913; in the 1920s a 500 kV test plant was available. In the next decade the first commercial cable to employ high pressure gas—a pipeline compression type—was laid and carried 66,000 volts. During the war a 132,000-volt single core self-contained compression cable was designed and by 1950 the tension had been raised to 220,000 volts in this type. Now the self-contained compression cable can be used for 275 kV and the pipeline type for up to 150 kV. The manufacturer feels that the company's achievements in design, manufacture and installation of super-tension cables are only just beginning.

Cross-Channel Link Strengthened

THE 10th anniversary on Monday last of the inauguration by Silver City Airways of its car ferry service between England and France—the development of this pioneer endeavour was outlined in MODERN TRANSPORT of July 12—was marked by unusual naming ceremonies and, almost equally unusual this year, by fine weather both sides of the English Channel. The success of the airline has always been due in no small degree to its ability to conjure up new ideas and put them across and the 10th birthday party was no exception. The Mayor of Le Touquet, Dr. Pouget, was flown to Ferryfield and there he named G-ANWK, a Bristol Superfreighter, *The Fourteenth of July* by disclosing that name on its starboard nose. Thereafter Mr. Eoin C. Mekie, chairman of Silver City, presented the mayor with an inscribed salver to betoken the company's appreciation of the town's assistance during the past 10 years. This was but the half of it, however, for after those taking part in the celebrations had been flown to Le Touquet, where Bastille Day was signified by quite a large crowd and the enthusiastic support of the town band, a second naming ceremony took place. The newly named aircraft had followed and the Mayor of Lydd, Alderman G. T. Paine, removed from the port side of its nose the piece of fabric which covered *Le Quatorze Juillet*. At a subsequent luncheon, Alderman Paine was, in turn, presented by Mr. Mekie with an inscribed salver and there was a number of speeches stressing the part played by the aerial car ferry in strengthening cross-Channel ties and encouraging the travel habit.

LEADING FEATURES IN THIS ISSUE

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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

Users' Interests in European Transport

THE good work done by the International Chamber of Commerce, and particularly by its British National Committee, in furthering the interests of trade and industry in the ordered development of European transport has frequently been described in these columns. Its activities in this respect in association with the Organisation for European Economic Co-operation (O.E.E.C.), through the European Conference of Ministers of Transport (E.C.M.T.), are referred to in the Committee's annual report for 1957-58. The fact that the latter body is vigorously engaged in producing a soundly based policy provides exceptional opportunity to induce acceptance of principles favourable to industry and trade as a whole, of which the I.C.C. is making full use. The main problem is concerned with the financial difficulties of the European railways, regarding which the International Union of Railways (U.I.C.) produced a report at the end of 1955. This document was the subject of study by E.C.M.T., in consultation with the I.C.C. and certain other organisations, and its observations upon it were approved by a resolution of the Council of Ministers in May, 1957. Subsequently the I.C.C. submitted a further statement relating to the principal recommendations of E.C.M.T.

E.C.M.T. Recommendations

THESE, the report states, concern the standardisation of the system to be followed in the preparation of railway accounts, entailing segregation of abnormal expenditure, the public service obligations of the railways, competition with other means of transport and comparability of the records of operation of railway systems. The I.C.C. noted with satisfaction that E.C.M.T. favoured the adoption of a system of accounting on commercial lines and a more rational allocation of expenditure between the railways and the general budget, so that abnormal costs incurred by way of subsidy or social services would no longer be provided for through the medium of transport charges. Whilst public service obligations, such as the operation of unremunerative lines, should be strictly reviewed and curtailed where possible, the I.C.C. maintains that the mere existence of obligations to provide certain services does not necessarily imply a loss to the railways. In the important matter of competition with other forms of transport, the E.C.M.T. conclusions are generally acceptable to the I.C.C. except in regard to a suggestion that it might be necessary as a temporary expedient to use taxation to counteract the advantages enjoyed by services competing with the railways, a policy which is anathema to the I.C.C. Another recommendation on which the I.C.C. recorded a word of caution was that carriers should in certain circumstances co-operate in the fixing of rates, the warning being that rates ought in no circumstances to be fixed without reference to the fundamental consideration of relating charges to costs. The problem of rates is aggravated by the unequal incidence of infrastructure or track costs as, for example, between road and rail, regarding which it is considered that no practicable solution has yet been found.

Capital Investment

THE report refers to a reservation of E.C.M.T. opinion on the co-ordination of capital investment in the several forms of transport, a subject which has been submitted to one of its sub-committees. Immediate profitability, the I.C.C. has pointed out, is not the only consideration which should be observed by the investing authority. "Users of transport want the kind of service which meets their requirements, and they also expect rates to be proportionate to the particular service provided; improved transport services often promote industrial activity and thus create new traffic; new techniques, too, though initially more costly, might in the long-run prove less costly than existing systems," states the report, which pays tribute to the E.C.M.T. for its acceptance of the principles for which the I.C.C. has so long campaigned—freedom of choice of transport and freedom to use transport for own account. So much is conceded in the E.C.M.T. report on the financial situation of the railways that the I.C.C. has decided that no further representation or comments on the two freedoms need be made at the present time. Now that European transport is likely to be reformed in consonance with the changed economy of the Common Market and a possible Free Trade Area, the part which the I.C.C. has to play in presenting the views of transport users is more important than ever. The report points out that Governments have to be persuaded to consult users as well as providers of transport, and in this the I.C.C. has achieved real success.

Pallet Pool

AT the request of E.C.M.T. the I.C.C. also organised joint consultations with organisations representing users and carriers on the possibilities of an international pallet pool providing for the exchange of pallets on European railway systems and eventually on road and rail together. It was ultimately decided that pallets for acceptance in the pool would have to be restricted to a single size, at least in the early stages, namely 32 in. by 48 in. Unfortunately, this size of pallet is little used in this country and is not the most popular in Germany and Holland, but it suited the majority and the British National Committee had to accept its adoption subject to a recommendation that as soon as possible other sizes (especially the 40 in. by 48 in. popular in Germany and Holland as well as here) should be added to the pool. The International Union of Railways has drawn up a model convention for the operation of the pool and this is now being studied. Other matters under review include the technical provisions which are being made within the inland transport committee of the Economic Commission for Europe for the international transport of dangerous goods and perishable foodstuffs.

Railways and Users' Rights

IN respect of railway transport the I.C.C. was mainly occupied with the study of innovations introduced into the tariff systems and freight conditions of some countries on the initiative of U.I.C. Two measures of reform, ostensibly intended to improve railway administration, contain elements which are thought to conflict with the rights enjoyed by users of the railways under the international convention on carriage of goods by rail (the C.I.M.). The first is the draft European tariff for less-than-wagon-load traffic, a standard set of rates which is open for adoption by agreement between adjoining railway systems, and the second, an extension of the first, affecting the choice of routes. Less-than-wagon-load traffic would, if the draft tariff were to be extensively adopted, be directed by prescribed routes without option except under a 50 per cent penalty. In addition, an attempt is being made by the railways to direct full-wagon-load traffic (not affected by the draft tariff) by certain selected routes on the ground that they are rational, subject to a similar 50 per cent surcharge if different routes are chosen by the consignor. For commercial reasons many users are objecting to interference with their choice of routes, particularly for frontier crossing. In general, however, the I.C.C. supports reasonable economies on the railways so long as they do not detract from user interests.

Forthcoming Events

July 26.—Light Railway Transport League. Paper by R. B. Parr, "The Wemyss Tramways." At Fred Tallant Hall, N.W.1. 3 p.m.
Norbury Transport and Model Railway Club. Tour of Millwall Extension Railway.

July 27.—Norbury Transport and Model Railway Club. Sheffield tram tour.

August 24.—Omnibus Society (Northern). Visit to Northern General Transport Co., Limited. Meet Chester-le-Street Depot, Gateshead. 2.15 p.m.

September 1-7.—Society of British Aircraft Constructors. Flying display and exhibition. At Farnborough. (Public days September 5, 6 and 7.)

September 8-12.—Municipal Passenger Transport Association. Annual conference. At Blackpool.

September 26-October 4.—Commercial Motor Transport Exhibition. At Earls Court.

September 28-October 7.—International Railway Congress. At Madrid.

September 29.—Passenger Vehicle Operators Association. Annual dinner-dance. At Grosvenor House, London.

SWINDON-BUILT MAIN-LINE DIESEL LOCOMOTIVE

Two Maybach Engines with Mekydro Transmission

NOTABLE REDUCTION IN WEIGHT

FOLLOWING the introduction on the Western Region, in February, 1958, of the first main-line diesel-hydraulic locomotive, No. D600, which was built by the North British Locomotive Company, a new type of locomotive, based on the same principles of power and transmission, is being built at the Swindon works of the Western Region. No. D800, named *Sir Brian Robertson* on July 14, is the first of these locomotives, which are being designed and constructed to the general requirements of the British Transport Commission, under the overall direction of Mr. R. C. Bond, chief mechanical engineer, British Railways Central Staff, British Transport Commission. Mr. R. A. Smeddle, chief mechanical and electrical engineer, Western Region, is responsible for the detailed design and construction of the locomotives. They are intended for operating express passenger and freight traffic.

The first of the 2,200-h.p. main-line diesel locomotives with Maybach engines and Mekydro transmission built at Swindon and named "Sir Brian Robertson" on July 14

Features

The design, which embodies many interesting features comparatively new to railway practice in this country, is based upon that of the V200 locomotives of the German Federal Railways, which have proved very successful in service. The experience gained in running these locomotives in Germany has been made available to the Western Region and should prove valuable in eliminating many of the initial troubles usually experienced.

Although based on the V200 design, the restrictions of the B.R. loading gauge necessitated a reduction of approximately 10 in. in height and 16 in. in width, which caused many problems from the point of view of space and accessibility and involved a redesign of the locomotive, employing the basic principles, by the Swindon drawing office staff. A high power-to-weight ratio has been achieved by the use of stressed skin construction, by means of which the superstructure bears a considerable portion of the weight of the locomotive. The weight saved by this form of construction, compared with that of the weight of a more conventional design of locomotive of the same power, is between 30 and 40 tons, equivalent to the weight of one coach. One advantage of the low weight is that the locomotive, although having a nominal horsepower of 2,200, can be carried on two four-wheeled bogies without the axle load exceeding 20 tons. The bogie design is one of the features of unusual interest and will be described later. Welded construction is used practically throughout the locomotive.

Welding bogie on Bode positioner

Following the precedent set when naming the locomotives of similar power built by the North British Locomotive Company, the new locomotives will be named after warships and will collectively be known, together with the N.B.L. - built locomotives, as the Warship Class. An exception is the first locomotive of this type, which, following an approach made at the request of members of the Western Area Board, Sir Brian Robertson, chairman of the British Transport Commission, agreed might bear his name.

Framing

The locomotives have the BB wheel arrangement and are included in the B.R. classification as Type 4, and are designed for operation in multiple with each other. The length over buffers is 60 ft., the weight in working order totals 78 tons and the fuel capacity is 800 gal. Tanks for 1,000 gal. of water are provided. The maximum service speed is set at 90 m.p.h., and the maximum tractive effort at 30 per cent adhesion is 52,400 lb. The driving wheel diameter is 3 ft. 3½ in. and the bogie wheelbase 10 ft. 6 in.

For descriptive purposes, the framing may be divided into two main parts, namely the underframe and superstructure, although the two are welded together to form one load-carrying unit. The material used for the whole of this framing is mild steel. Two tubular members, 6½ in. o.d., running the whole length of the locomotive from one buffer beam to the other, form the basis of the underframe. Their centres coincide approximately with the buffer centre lines and, therefore, they transmit the buffing forces directly.

Deep longitudinal plate members provide strength

(*Continued on page* 11)

The tubular underframe laid down at Swindon Works, Western Region

LORRY—BUS—COACH

Bus Wage Talks Adjourned

ON Monday this week it was known that deadlock had been reached in the discussions between the employers and workers in both the municipal and provincial bus industries over wage demands. The N.J.I.C. for the Road Passenger Transport Industry failed to reach any agreement on the workers' claim, reported to be for an additional 10s. 6d. per week, plus extra pay for night workers. Negotiations have been adjourned until July 31. The N.C.O.I., which is considering the claim for provincial company workers, including also a pension scheme, has adjourned until a date to be agreed. On neither claim have the employers made any offer, it is stated.

Road Haulage Wage Increases

AWARD of wage increases of 5s. per week for adult road haulage workers, with proportionate sums for younger workers, has been made statutory by the Minister of Labour with the publication of Road Haulage Wages Council Order RH(64). The new order was effective from July 16 or from the beginning of the next full pay period, whichever is earlier.

Radio Control in Aberdeen

MOBILE radio control is to be the subject of a report which Aberdeen Corporation Transport Committee has requested from the general manager, Mr. F. Y. Frazer. It would particularly assist holiday traffic control, Royal visits and similar events which are a normal feature of the Aberdeen traffic year.

No Answer to Rural Bus Problem

IF small operators could be found for the rural areas, the traffic commissioners would not hesitate to grant a licence, declared Mr. H. J. Thom, chairman of the South Eastern area Traffic Commissioners, in Midhurst, Sussex. Mr. Thom gave what he termed "a very depressing picture" of the problems of rural bus transport. "I do not think," he said, "that anyone has any really practical idea for improving the position." Unremunerative routes throughout the country, said Mr. Thom, were almost entirely provided by the big companies, who covered half their mileage at a loss. This could only be done by assistance to the funds from the remunerative routes in urban areas and from pleasure travel.

Belfast Finely Balanced

SUBSTANTIAL economies have been made in working costs and the search for further savings is being vigorously pursued, says the annual report of the general manager of Belfast Corporation Transport Department. Even the full realisation of the economies in process of investigation would be insufficient to maintain the very delicate balance between income and expenditure if future awards should follow the pattern of those granted in previous years, states Mr. J. Mackle. It would be impossible to maintain the present level of fares, stages and service frequencies and at the same time comply with the statutory obligation to make income meet expenditure. There was a working surplus of £171,712 on the trolleybuses, reduced after interest, redemption and loan expenses to £38,612; the buses had a working surplus of £157,334, converted after appropriations into a deficit of £25,447.

Slot Machines for Coach Refreshments

AUTOMATIC catering facilities, permitting a 24-hour service, are being provided at its Station Road garage, Kendal, by Ribble Motor Services, Limited, for the benefit of the hundreds of thousands of passengers who pass through on day and night coach services. This makes available cold foods as well as hot or cold drinks at any hour of the day or night. One machine offers a ham sandwich, sausage roll or portion of slab cake for 6d., and is refrigerated to preserve freshness or can be used for the sale of milk and other drinks in cartons. A second gives seven choices of cold drinks, a third seven choices of hot drinks and soups. This garage is also being extended and improved so that the other Kendal garage, in Shap Road, may be closed.

Scout Motor Services, Limited, Preston, which operates closely with Ribble Motor Services, is operating this 72-seat front-entrance Leyland Titan double-decker with Burlingham body as far afield as Blackpool and Rochdale; right, a 1946 Leyland Titan of another local independent, Bamber Bridge Motor Services

Leicester Gives Good Value

COMMENTING on the £72,905 surplus brought in by Leicester City Transport meeting for last year, Councillor S. Bridges, the Transport Commitee chairman, said that when the application was made last November for a fares increase, they did not budget for so big a surplus. "If this result had been achieved by charging unreasonable fares, however, our wisdom might have been questioned," he told members of Leicester City Council. The loss in traffic was not as much as the 7½ per cent anticipated. Also among the operational economies since introduced was a further gain due to the easier labour position which resulted in the elimination of some overtime at the most expensive rates. Figures obtained from other Midland towns showed that at 2d. and 3d. the department gave a longer ride than any other. "Fourpenny fares upwards are not quite such good value—if we were masters in our own house—that is within the city boundary—a different tale might be told," he added. But Councillor A. W. H. Kimberlin, vice-chairman of the transport committee, said that the department's loss in traffic —nearly five million compared with last year—was concerning councillors. "There is clear evidence that higher fares are the main reason," he suggested.

New R.H.A. Nottingham Office

THE East Midlands area of the Road Haulage Association moved into new and larger offices at Nottingham on July 14. It has taken over Cranmer House, Cranmer Street, Nottingham, which formerly housed a National Coal Board department. The new headquarters was officially declared open by Mr. A. G. Curtis, chairman of the East Midlands area Licensing Authority. "Offices like these," he said, "add dignity to the association and are an indication of your confidence in the future." Mr. G. E. Chettle, the area chairman, presided and the guests included Mr. R. H. Ingram (national chairman) and members of the National Coal Board.

Derby—Nottingham Service to Stay

THE appeal lodged by the British Transport Commission against the decisions of the East Midland area Traffic Commissioners to grant to Barton Transport, Limited, and Trent Motor Traction Co., Limited, licences to operate a joint express carriage service between Derby (Bus Station) and Nottingham (Mount Street) has been refused. The Minister of Transport agrees with the observations of his inspector, Mr. J. R. Willis. He also took full account of the fact that a large number of people had been making the through journey between Derby and Nottingham by the respondents' existing stage carriage services, and that the express service granted to them gave such passengers a quicker and more direct journey by road. He also bore in mind that British Railways' new diesel train service likewise provided improved direct facilities between those places. He recognised in this instance the difficulty of forecasting in advance the effect of introducing additional facilities upon the distribution of traffic between road and rail and concluded that the new road service represented an improvement of existing road facilities which might properly take place alongside the improvement in the rail services.

London Bus Reductions

FOLLOWING a meeting with representatives of the Transport and General Workers Union on July 15, the London Transport Executive announced that 19 Central bus routes were to be withdrawn on August 20. It was also stated that three garages—Old Kent Road, Clapham and Putney Bridge—would be closed in the autumn. There would be no redundancy of drivers and conductors arising from the service reductions and other measures of economy and any redundancy on the maintenance side would be discussed with the union. The union representatives undertook to consider the Executive's proposals, and a further meeting had been arranged for Wednesday, July 23. The services which will be completely withdrawn are: 4A (Finsbury Park—Clapham Common); 7 (Liverpool Street—Acton); 17 (London Bridge—Park Royal Station); 26 (Ilford Station—Lambourne End); 48 (Cannon Street—West Norwood); 50A (Embankment—Brixton Garage); 58 (Archway Station—Golders Green); 60 (Colindale Station—Old Ford); 67 (Waterloo—Stoke Newington); 86 (Chadwell Heath—Brentwood); 96 (Putney Common—Redbridge); 127 (Morden Station—St. Helier); 149 (Cannon Street—Grove Park); 169 (Victoria—Clapham Junction); 189 (Cannon Street—North Cheam); 238 (Emerson Park—Noak Hill); 239 (Gidea Park—Romford Station); 249 (Corbets Tey—Upminster Park Estate); and 251A (North Finchley—Arnos Grove). At the same time the Cricklewood Garage—Colindale section of Route 260 will be withdrawn. Withdrawals contemplated in October comprise that of 123 (South Hornchurch—Ongar) other than on Saturdays, 193 (Dagenham East Station—Ford Works) and three trolleybus routes—664 (Edgware—Paddington Green), 683 (Stamford Hill—Moorgate) and 695 (Bow—Chadwell Heath). At the same time the Harlesden—Bunt Station section of 18B would be withdrawn as would 25 between Becontree Heath and Hornchurch, 33 between Richmond and Hammersmith, 39 between Camden Town and Parliament Hill Fields, 83 between Ealing Broadway and Hayes, and trolleybus 628 between Harlesden and Craven Park.

Bus and Coach Developments

Since June 21 London Transport Central bus route 111 has been amended to operate as follows: Monday-Friday, Hanworth—Cranford (Queens Head), extended peak to London Airport Central; Saturday and Sunday, Cranford (Berkeley Arms)—Hanworth, extended Saturday afternoon to Twickenham Station.

Bristol Omnibus Co., Limited, and Bristol Corporation propose the revision of a number of services which has largely the effect of linking them as cross-city routes.

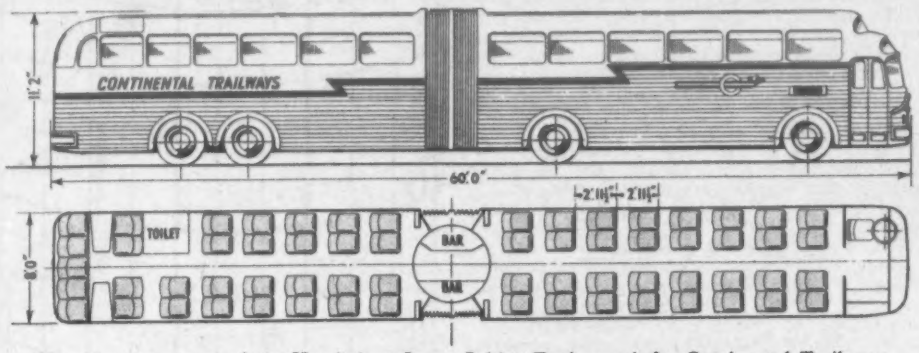
Sheffield United Tours, Limited, applies for modifications to its excursions and tours licences to enable it to implement agreements with Henry Hulley and Sons, Limited, and E. T. White and Sons, Limited, whereby it may carry passengers booked on their tours from Baslow, and Calver and Hathersage respectively.

A 60-FT. ARTICULATED BUS OR COACH

Rolls-Royce Engine for U.S.A. Service

COMFORT FOR LONG-DISTANCE RIDERS

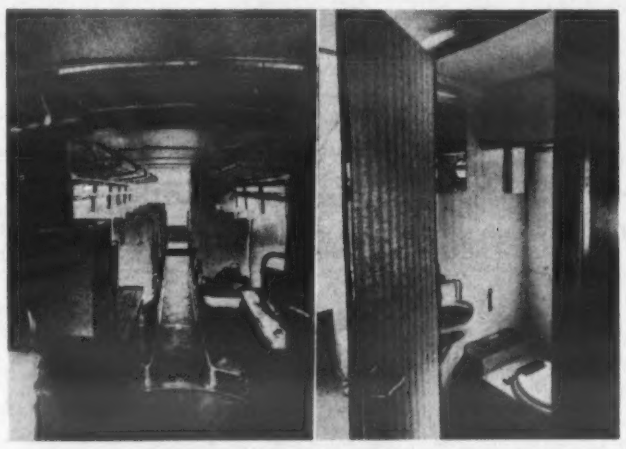
LAST week saw the arrival in Britain of an unusual public service vehicle in the shape of a Kassbohrer articulated coach destined for the United States where it will join three others of the same type in the fleet of Continental Trailways operating on the extensive route network which that concern provides throughout the U.S.A. from its headquarters at Dallas, Texas. It has table. The height of the seats above the ground and the big windows give the passenger an excellent view. It is, of course, possible with less luxurious seating to increase the passenger capacity considerably. All windows are of light-absorbent tinged unbreakable glass and, as required by United States safety regulations, all side windows are hinged at the top and can be opened.



General arrangement of the Kassbohrer Super Golden Eagle coach for Continental Trailways with supercharged Rolls-Royce horizontal diesel engine

meanwhile toured part of the country so that travel agents and others might see the type of coach available for potential tourists in the United States. These 60-ft. long vehicles seat 63 passengers on trunk services and have Rolls-Royce C6SFLM supercharged horizontal engines. This unit it may be recalled develops 275 b.h.p. at 2,100 r.p.m. and has a maximum torque of 790 lb. ft. The model is the first built by Kassbohrer to incorporate its Setra chassisless construction system for an articulated unit, although the firm has used it quite extensively on more orthodox two-axle buses and coaches.

The flat sides and generally rectangular appearance was perhaps slightly strange in the London streets although there are of course many British coaches which are somewhat severe in line. There was, however, a definite reason for the adoption of the style in order to make the best of United States vehicle washing plant which tends to jib at anything out of the straight whether horizontal or vertical. The coach is 8 ft. wide and the overall height is 11 ft. 2 in. At first blush the unladen weight of roundly 16 tons is pretty fearsome as is the gross weight of 22 tons, but reflection shows that the power-to-weight ratio is 1 b.h.p. to 179 lb. which is by no means unreasonable. Maximum speed is 70 m.p.h.



Interior view of the coach looking towards the rear and showing in the foreground the bar installed in the turntable section; right, the lavatory

Layout

The construction of the prime mover is similar to that of the Golden Eagle coaches already in service with Continental Trailways and the floor is deliberately at a high level. This gives certain advantages. The large luggage lockers can accommodate without any difficulty the often bulky baggage of long-distance passengers, while it is also possible to achieve better positioning of the engine, radiator, fuel tank and air and water tanks, as well as the heater unit and the air conditioner. The raised floor also, of course, eliminates wheelarch problems. The seats can be placed according to requirements as they are mounted on fore-and-aft rails and can be fixed in any position. The coach has 63 seats for normal requirements during the day. For night journeys one or two rows of seats are removed to give more space between the seats. This turns to good account the advantages of the deluxe sleeper seats which resemble those in aircraft. Every pair of seats is equipped with a controllable loudspeaker, a reading lamp and a flap

On the turntable, within the concertina section amidships, there is a bar and place for the stewardess. During the journey the passengers may have sandwiches and hot and cold drinks. In view of the long runs made by these coaches, a built-in chemical closet is provided in a toilet compartment on the left hand or off side of the trailer section. At the extreme rear there is what may be termed an observation lounge with pairs of facing seats separated by tables. We gathered that these are very much appreciated by games players and so on.

The air conditioning unit, which had not yet been installed, provides fresh air and cooled air in the passenger compartment and is driven by a separate diesel engine. The interior is lined in brightly coloured leatherette and pattern and colours conform with American styling. The seats are of rubber foam with easily cleaned fabric covers.

Features of Construction

The undercarriage is similar to that on the Golden Eagle coach. The front axle of the prime mover and the two trailer axles are of the same type and there are single wheels with rubber suspension. The manufacturer claims that the low oscillation frequency notably increases passenger comfort, and this may well be the case although the nature of journeys in the London area precluded any real test of this. The spring assembly consists of a rubber torsion spring and serves as a bearing for the lower suspension arm. The upper suspension arm is fitted with silent blocs. This design also reduces noise.

There is a ZF-Gemmer steering assembly with steering drag link and two-piece track rod and the rear axle of the trailer has automatic steering. The track arms of the wheels are jointed to the turntable of the fifth wheel by track rods and steering rods; the front axle of the trailer has rigid wheels. The minimum turning circle is 82 ft.

The Super Golden Eagle negotiates the corner in Knightsbridge at its junction with Brompton Road

Power Unit

The driving axle is a rigid unit built by the Timken-Detroit Axle Company. Two rubber torsion springs and two suspension arms on each side are hinged to the body framework on rubber supports. As already indicated the engine is a Rolls-Royce six-cylinder diesel engine of the underfloor type. It is mounted between the front and the rear axle of the prime mover. The engine is equipped with a supercharger and has an output of 275 b.h.p. at

(*Continued on page 12*)

OIL MIST DETECTOR

Prevention of Explosions in Diesel Engine Crankcases

M.T.C.A.-APPROVED GRAVINER-B.S.R.A. EQUIPMENT

FOR the past few years, diesel engine users, particularly in the marine field, have been concerned with the hazard of crankcase explosions, a problem that has been accentuated by the recent trend towards higher specific outputs and higher operating temperatures. After a marine engine crankcase explosion had caused a major disaster at sea in 1947, the British Shipbuilding Research Association was asked by its members to undertake a programme of work to discover the cause and if possible a means of prevention of such explosions.

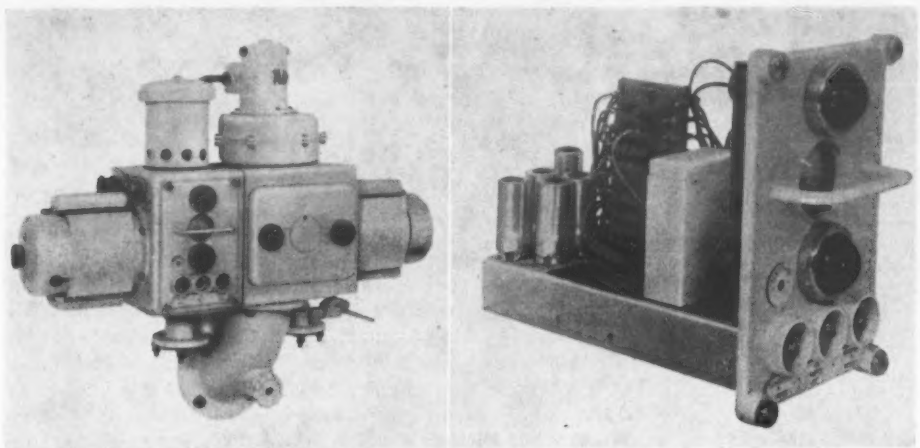
The problem was first referred by B.S.R.A. to the chemical engineering department of the Imperial College of Science and Technology and the researches of that department indicated that crankcase explosions were most commonly caused by the inflammation of oil mist formed when lubricating oil came into contact with overheated surfaces, the hot spot itself being the most likely source of ignition. No evidence was found to support suggestions that explosions were more likely to occur in trunk engines than in crosshead types or that it was safe to assume that diaphragms eliminated the risk of explosions. Records showed that practically every part of a diesel engine had at some time or other been responsible for causing explosions once an ignitable concentration of oil mist was present.

Prevention Better

A typical marine lubricating oil selected for the Imperial College research was found to generate oil mist at 200 deg. C. and there were two temperature regions in which ignition could take place—between 270 and 350 deg. C. and at 400 deg. C. It was also found that a minimum oil mist concentration of 5 milligrams per litre of crankcase volume was necessary to produce an explosive mixture. It was clear that the optical density of the oil mist at the lower explosive limit was such that detection by photoelectric means was possible long before the dangerous condition was reached; this suggested the possibility of an effective means of explosion prevention, which B.S.R.A. rightly considered would be far better than attempting to confine or deal with explosions after they had happened.

Hot spots and temperatures high enough to generate dangerous concentrations of oil mist are often caused by an incipient mechanical failure, such as a partial bearing or piston seizure for example. As observations at sea had shown that no significant amount of oil mist arose under normal conditions, it was obvious that an oil mist detector of the type envisaged would have the additional advantage of giving warning of such incipient failure in time for action to be taken to prevent destructive mechanical damage.

At this stage, the work of developing a suitable photoelectric system was put in the hands of the Graviner Manufacturing Co., Limited, Gosport, Hants, and during the past five years, the company has designed and developed an apparatus which, after subjection to extensive laboratory and service trials, has now been formally approved by the Ministry of Transport and Civil Aviation for use in British passenger ships. More than that, in cases where the Graviner apparatus is fitted to the diesel engines of passenger ships, the M.T.C.A. has said that the area of the mandatory pressure-relieving valves or doors may be reduced from ½ sq. in per cu ft. of gross crankcase volume to ¼ sq. in. per cu. ft. The B.S.R.A. *Technical Memorandum No. 90*, which describes the apparatus, indicates that it has now been developed to the stage where it can be relied upon to give adequate warning of the existence of dangerous concentrations of oil mist and to operate under service conditions for long periods of time without the need for anything more than occasional routine servicing. The detector is of course also applicable to all types of industrial diesel engines.



The Graviner-B.S.R.A. oil mist detector and, right, the control panel withdrawn from the detector casing

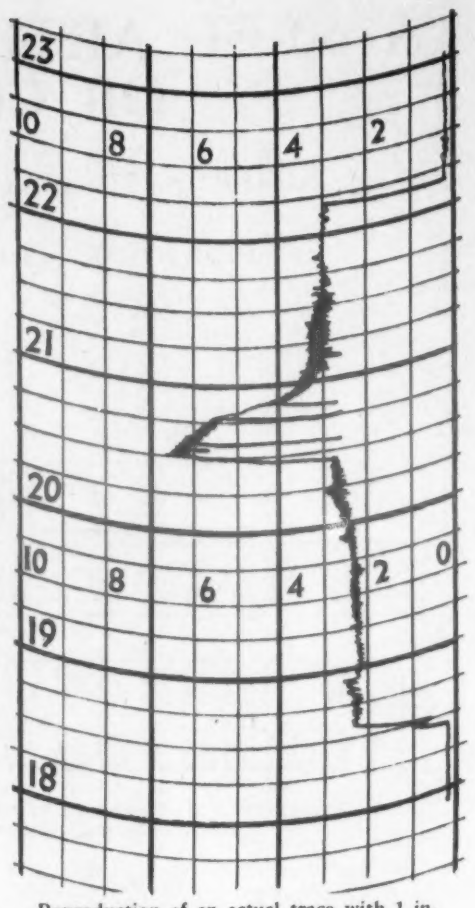
The Detector

The Graviner-B.S.R.A. equipment comprises a photoelectric detector unit, its associated power pack and control panel for operation from the ship's 220-volt d.c. or other mains supply and visual (meter or continuous chart) and audible (gong) warning devices. The detector unit is designed to bolt directly to the engine crankcase through a short 4-in. diameter suction duct, a feature which avoids long connecting pipes and the possibility of a high rate of condensation before the oil mist sample reaches the detector and eliminates time lag between the generation of excessive oil mist and a warning from the apparatus. The detector comprises an outer mist chamber and an inner vortex chamber in direct connection with a suction fan which circulates the oil mist. Two circular sleeves with protective sealing glasses at each end protrude into the vortex chamber, the design of which is such that the obscuration of the glasses by oil droplet or mist condensation is effectively prevented.

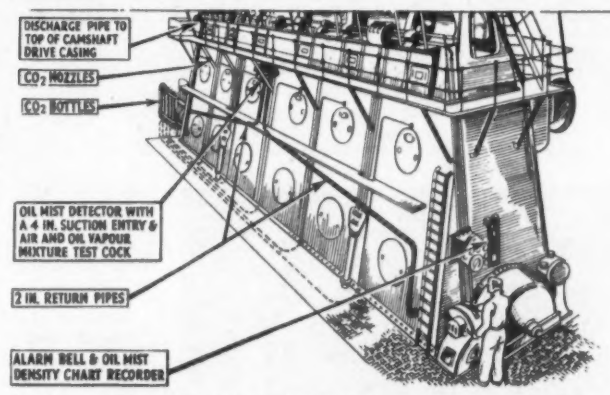
A light source located in a housing is arranged to throw a light beam across the vortex chamber through the gas-sealed windows on to a ceasium cell. A second light source located in an isolated compartment is arranged to energise a reference ceasium cell, the percentage of oil mist present in the vortex chamber being indicated by the difference between the amount of light falling on the two cells. Continuous sampling of the crankcase atmosphere is obtained by the action of the motor-driven suction fan which draws a large volume of slow-moving oil vapour-air mixture through the suction pipe into the outer chamber and thence through annular ports into the vortex chamber, whereafter it returns to the crankcase through ports and pipe connections. The detector can be isolated from the crankcase by a valve and a sampler valve and chamber viewing window are also provided.

The power unit, amplifier and control panel are mounted on a quickly removable chassis located in the detector unit chamber. The control panel incorporates a main on-off switch, sensitivity control, warning reset switch, indicating check meter, green and red signal lamps, sensitivity check, mains plug and gong wiring connections. A clock-work-driven recorder unit comprising a stylus and three-colour moving chart provides a continuous record of mist density within the crankcase. It is electrically connected to the power

(*Continued on page 7*)



Reproduction of an actual trace with 1 in. per hr. chart speed. The peak represents generation of oil mist due to a scavenge valve failure and prompt action in this instance prevented serious damage



Installation of the Graviner-B.S.R.A. equipment on a typical six-cylinder marine diesel with impartitioned crankcase

MODERN AIRWAYS and COMMERCIAL AVIATION SECTION

T.C.A. RESULTS FOR 1957

Profit for Seventh Year in Succession

SUBSTANTIAL increases in all phases of the operations of Trans-Canada Air Lines, resulting in a profit for 1957, were recorded in the annual report tabled in the Canadian House of Commons by Mr. George Hees, Minister of Transport. There was a surplus of $404,674, making it the seventh successive year in which T.C.A. had shown a profit. Gross revenues totalled $104,995,707, an increase of 15 per cent over the preceding year, but Mr. G. R. McGregor, president of the airline, observed in the report that that figure was the net result of a 20 per cent increase in the first half of the year and an increase of only 11 per cent in the second half compared with corresponding periods in 1956.

Despite the most rigid control, increased operating expenses were encountered during the year. A 16 per cent rise was attributed to increased wages, higher aircraft landing fees in both Canada and the United Kingdom, an increase in the average cost of aviation fuel and a tax of two cents per gallon levied on aviation fuel taken on in Ontario. Continuing expansion to meet increased traffic demands, T.C.A. last year added 14 Vickers Viscounts and two Lockheed Super G Constellations to its fleet, introduced greater flight frequencies on many routes and increased available seat-miles by some 20 per cent.

Increased Loads

A total of 2,392,713 passengers was carried by the airline, an increase of 15.4 per cent over the previous year and more than twice as many as were carried in 1952. Passenger traffic accounted for by far the greatest portion of the revenue—$86,523,981 or 82.4 per cent of the total. Statistically the company shattered many of the records it had previously established. It provided the greatest number of seat-miles and ton-miles in its 21-year history, continuing to build up mail, express and freight volume as well as passenger traffic. During the year a total of 9,855,000 mail ton-miles, 2,575,000 express ton-miles and 12,903,000 freight ton-miles were flown by the airline on regularly scheduled passenger flights and by all-cargo services.

At the end of the year T.C.A. was serving 59 communities over 27,782 miles of air routes in Canada, the United States, the British Isles, France, Germany, Bermuda and the Caribbean and of these 59 communities, 39 were in Canada. It may be noted that 27 of the 39 had populations of less than 100,000. Despite a general trend towards rising costs and increased consumer prices in virtually all Canadian industries, there were no increases in passenger and cargo tariffs. In fact, plans were formulated in 1957 for the introduction of a revised Canadian rate structure, which took effect on January 1, 1958, and brought about substantial reductions in fares. Principal changes included a reduction in tourist-class fares of up to 20 per cent. The report noted the reduction in fares came at a time when major United States airlines had been granted an interim fare increase of 4 per cent, plus $1 per single ticket.

Abreast of Requirements

Reviewing 1957, Mr. McGregor said that the airline was keeping well abreast of the requirements of the jet age. It would have, by 1961, the world's first completely turbine-powered international air fleet, consisting of six Douglas DC8 jetliners for transcontinental and transatlantic routes and 20 turboprop Vickers Vanguards and 51 Viscounts for short- and medium-haul routes. He placed on record plans for the construction of a large overhaul and maintenance base at Montreal, the first of its kind designed to meet the requirements of turbine and jet aircraft.

Development of new procedures in maintenance and overhaul handling, ramp handling, flight management and ground staff training for jet aircraft were well under way and new ground facilities were being designed and tested. An entirely new automatic electronic reservations system was developed in 1957 and prototypes of the proposed equipment were being tested at Toronto. One of the major events of 1957 had been the introduction of nonstop service between Toronto and Vancouver with Super Constellation aircraft, reducing transcontinental travelling time to 7 hr. There were seven daily transcontinental flights from Eastern Canada to the west coast and return last year, while two other flights terminated in Alberta. For the first time, one transcontinental flight a week was routed through Windsor.

Increased Range

The first Toronto-United Kingdom nonstop flight was initiated in 1957 and during peak periods a total of 12 flights per week were being flown across the Atlantic. Also during the year, Super Constellations were fitted with wing-tip tanks, making possible for the first time nonstop transatlantic flights from points west of Montreal. Fitting of weather radar to these aircraft began.

The successful turboprop Vickers Viscounts which T.C.A. had introduced to the air routes of North America in 1955, went into service on flights to London (Ontario), Quebec City, Saguenay, Seven Islands, Moncton, Fredericton, Saint John, Yarmouth, Halifax and Boston during 1957. The number of staff rose almost eight per cent over 1956 to total 9,726 on December 31 as the airline expanded its ground handling facilities and enlarged its sales and reservations staffs to meet the increasing volume in traffic. At that date the fleet consisted of 11 Super Constellations, 32 Vickers Viscounts, 21 North Stars and 18 DC3s. With the delivery of additional Viscounts in 1958, the airline would retire several more of its DC3s from service.

Oil Mist Detector

(*Continued from page 6*)

unit and is normally positioned adjacent to the engine control position under surveillance of the watchkeeper. At a speed of 1 in. per 4 hr. a chart has a life of four months. As an additional safety device, the warning gong is arranged to sound if the density reaches the upper limit set and will continue to sound until attention is given.

Installation and Operation

Tests have shown that on open-crankcase types of engine, one unit will adequately cover up to six cylinders but each installation must be treated individually and engineered to ensure continuous agitation and circulation of the crankcase atmosphere. Apart from the 4-in. suction and two 2-in. return pipes, certain types of engine require also a return branch to the camshaft drive casing. The equipment is designed to operate from the ship's mains supply of 220 or 110 volts d.c. with a consumption of 200 to 250 watts, but other supply arrangements are possible.

With the apparatus in operation, a green light will show on the control panel and the mist haze associated with normal running temperature will cause the mist-density meter needle to rise above its original zero setting. Similarly, the chart-recorder pen will make a trace on the green section of the chart just above the zero line, recording the normal running condition of the engine. Any advance of the trace into the amber section of the chart, or of the meter needle into the red sector of the scale, would indicate a rise in temperature within the crankcase and the possible onset of mechanical trouble. As well as these two indications, if this condition is reached the green indicator light is replaced by a red light on the control panel, the suction fan will cease to operate and the warning gong will sound continuously until the equipment is switched off so that the cause can be investigated.

The point at which the warning devices will operate is adjustable but is usually set between 1¼ and 2 milligrams of oil per litre of crankcase volume —sufficiently far below the minimum concentration of 5 milligrams per litre necessary to produce an explosive mixture to provide engine-room staff adequate time to take appropriate action. A sensitivity check switch is incorporated in controls and warning of failure of either of the exciter lamps providing the light source for the photoelectric cells is given by the green light being replaced by intermittent flashing of the red light. As already mentioned, the vortex chamber is designed to avoid deposits forming on the glass screens but a gradual rise in the meter and recorder readings could mean that this was occurring. This can be prevented by periodic cleaning of the glasses, for which purpose doors are provided in the suction and vortex chambers.

Service Trials

As well as extensive laboratory testing, in which it was found that the interval between the injection of oil mist at the remotest part of a six-cylinder engine never took longer than 3 min. to produce audible warning by the centrally mounted detector, service trials have been undertaken on a number of vessels at sea with the co-operation of the owners concerned. Apart from some minor troubles with indicator-lamp filaments, which have now been overcome, performance has in every case been satisfactory. The ships concerned are the *Emsworth* of Stephenson Clarke, Limited (eight-cylinder British Polar engine), *Cyclops* of Alfred Holt and Company (eight-cylinder Scott B. and W.), *Essequibo* of Royal Mail Lines, Limited (six-cylinder Harland and Wolff), *Tamele* of Elder Dempster Lines, Limited (three-cylinder Doxford) and *Rangitoto* of New Zealand Shipping Company (six-cylinder Vickers-Armstrongs-Doxford).

Indications of how the apparatus gives warning of impending mechanical trouble have occurred during the trials. The section of the chart which is reproduced on the previous page was taken from the collier *Emsworth*, for example. The high reading was noted shortly after leaving port and the engine was consequently shut down and the vessel returned to port. Examination revealed a fractured scavenge valve, pieces of which had blown into one cylinder thereby causing fracture of the cylinder liner.

Similarly, during 180-hr. bench trials with the apparatus fitted to a Ruston and Hornsby VEB6 engine, a high mist-density reading was disregarded and, a short time afterwards, the engine suffered a minor piston seizure.

PROPOSED ROUTE OF NEW WEST LONDON EXIT ROAD

The proposed line of the first stage of the London—South Wales radial road has been published. At the Langley end it would join the Slough—Maidenhead by-pass and at the Chiswick end the Great West Road—Cromwell Road link. Near Colnbrook there would be a flyover at the proposed north orbital road. The new road would be carried over Great West Road on a centrally supported deck

NEWS FROM ALL QUARTERS

Progress of Irish Bills

The Transport Bill, 1958, passed through its final stages in the Irish Senate last week, as did the second stage of the Great Northern Railway Bill, 1958.

Marshalling Yard at West Hartlepool

British Railways is proposing to construct a large new marshalling yard at West Hartlepool which will replace five small, outdated yards, now in use. Work begins soon on a sub-depot at Sunderland for the fuelling and servicing of diesel trains.

Paris Disc Parking Impracticable

Because of the expense of supervision, without counterbalancing revenue, the Paris authorities are considering abandonment of the free disc parking scheme in force for some months in a special "blue zone" of the city. The motorist pays nothing unless he exceeds the allotted free parking time.

Approach Road for Runcorn—Widnes Bridge

While work is proceeding on the new Runcorn—Widnes road bridge over the Mersey, the Minister of Transport has approved a scheme for the construction of a 33-ft. single-carriageway Halton by-pass, which will improve the main outer approach to the bridge on the Cheshire side. At present traffic using the existing transporter bridge has to go through Halton, where the road is narrow and tortuous, and in Runcorn itself the roads now forming the bridge approach are fronted by shops, a market, a cinema and public buildings. There will be space for a second carriageway on the by-pass.

Accident Reports Privileged Documents

In the Queens Bench Division Court last week Mr. Justice Havers dismissed an interlocutory appeal against a decision of a master that railway accident reports and returns made by officers and servants of the B.T.C., and correspondence between them, were privileged documents made after litigation had been contemplated, to assist counsel, and were therefore not disclosable on discovery. An action for damages had been brought against the B.T.C. by the widow of one of its former employees. It was stated that the documents were produced for the purpose of a statutory accident report to the Minister of Transport.

Road Casualties in May

There were 4,393 more casualties on the roads of Great Britain in May this year than in May, 1957. The killed numbered 466, an increase of 21, and the seriously injured 6,248, an increase of 1,025. The number of slightly injured rose by 3,347 to 20,947, making a total for all casualties of 27,661, an increase of nearly one-fifth. Over the country as a whole the Road Research Laboratory estimates that traffic on main roads increased by 25 per cent compared with May, 1957. The casualty increase was particularly marked in the Metropolitan Police District where the figures for killed and injured rose by 30 per cent. This higher rate may be attributable in part to the consequences of the bus strike.

Direct Newhaven—Dieppe Day Trips

First no-passport excursion train from Victoria to Dieppe since the war will be run by the Southern Region on July 23. It will also be the first Newhaven to Dieppe and back day trip since the war. Passengers will have four hours on the Continent.

Drastic Parking Ban in Nottingham

A complete ban on parking will be imposed in 15 Nottingham city streets for an important two-day traffic experiment next week. On Wednesday, July 23, and Friday, July 25, waiting of any kind and loading and unloading of vehicles—except for as long as is necessary to pick up and set down passengers—will be prohibited. The ban will be effective between 8.15 and 9.15 a.m. and 5.15 and 6.15 p.m. Business premises have already been warned so that they may make alternative arrangements for the loading and unloading of vehicles.

Stratford Carriage Sidings Concentrated

Hitherto dispersed carriage cleaning and servicing facilities at Stratford, Eastern Region, have been concentrated. Previously there were several sets of carriage sidings, at Thornton Fields, Temple Mills and Channelsea. Dispersal made for uneconomical use of staff and engine power. By concentrating empty carriage stabling and working on 51 sidings at Thornton Fields wasteful empty stock and shunting engine movements have been avoided. Temple Mills sidings have been closed completely and Channelsea sidings are staffed by one man per shift.

Tanganyika Road-Rail Rates

To counter what might have been a serious loss of southbound traffic to the Tanganyika road services of East African Railways as a result of policies adopted recently by the Tanganyika Transport Licensing Authority, immediate action was recently taken to introduce special road-rail rates for traffic from Dar es Salaam to the Southern Highlands. Considerable opposition has been voiced by the Transport Advisory Council to the Licensing Authority's policy, since it was felt that if the road services were to be maintained on a reasonable financial basis "licensing support" would be required.

Motorway Service Areas

Land has been acquired by the Minister of Transport for the siting of four service areas on the London—Birmingham motorway, which, it is expected, will be opened to traffic in October, 1959. A fifth service area is planned for the St. Albans By-Pass, the southern continuation of the motorway. Each service area site will cover about 10 acres, evenly divided on each side of the road, and the sites will be about 12 miles apart. A covered footbridge over the motorway will be provided by the Minister to link the two sides of each area. The extent of the facilities to be provided will depend on the demand. It is possible that development of facilities at more than two of the five areas will not be justified until the motorway has been open long enough for experience to be gained. Exclusive supply of fuels, oils or lubricants of one brand will not be permitted.

COMMERCIAL AVIATION

Problem of Jet Noise

LATEST VERSIONS OF PROTEUS

IN his latest message to the staff Lord Douglas of Kirtleside, chairman of British European Airways, has lamented the delays to the commencement of the London—Moscow service, due to the fact that the Ministry of Transport and Civil Aviation has so far not been able to accept, for scheduled services into London Airport, the noise level of the Tu-104 jet which Aeroflot proposes to use in parallel with B.E.A. Viscounts. In the discussions which had taken place, the Russians had pointed out that their aeroplane had been accepted in Brussels, Paris and Amsterdam. Furthermore, silencing the Tu-104 was not feasible without unacceptable performance penalties and the Il-18 turboprop transport, which was the only alternative equipment, would not be ready for international operations until next year. Lord Douglas suggests that it is clear that the difficulty over the noise of the Tu-104 is only the beginning of a most difficult situation which, unless it is satisfactorily resolved quite soon, could easily harm the position of Britain as one of the most important focal points of international air transport.

The message records that B.E.A. traffic this summer continues to be disappointing. On some routes in recent weeks it has actually been less than in the corresponding period last year. [It may well be wondered why in that case there is so keen a desire to operate the unpromising and in many ways dubious Moscow service.—Editor, MODERN TRANSPORT.] May passenger traffic was only 2 per cent greater than in the same month last year, which compared with traffic increases for May of from 15 to 25 per cent in previous years. In June business was relatively even worse. Passenger traffic was about 3 per cent down on last year. While B.E.A. "wisely budgeted this summer for smaller traffic increases than usual" the full seriousness of the recession in business could not be anticipated. As a result, because the capacity offered for sale was up by about 15 per cent in May, the load factor fell by no less than 11 per cent.

Eagle Frankfurt Service Suspended

Eagle Airways announced last week that with effect from July 9 its Viscount service from Manchester to Brussels and Frankfurt on Tuesdays was suspended until further notice.

Brussels Exhibition Heliport

Since the opening of the Brussels Exhibition there have been large crowds at the exhibition heliport, and more than 20,000 people have so far passed through it. Apart from the passengers arriving on scheduled Sabena helicopter services from France, Holland and Germany, 12,000 people have already been on the excursion flights which Sabena is organising over the exhibition grounds. The helicopters operating these excursions have made, to date, 2,700 landings and take-offs.

Viscount Success in Philippines

In the year June 1957, to May, 1958, Philippine Air Lines increased passenger traffic by 27 per cent following the introduction of Vickers Viscount air liners on its Manila—Hong Kong route. In the previous year, using twin piston-engined 42-seat aircraft, P.A.L. carried 20,404 passengers on 309 services at a passenger load factor of 79 per cent. Viscounts were then introduced and despite an increase in seating from 42 to 44 and in the number of services from 309 to 377, a passenger load factor of 78 per cent was maintained for the year and the total number of passengers carried rose to 25,924.

Aerad Flight Documentation Conference

On July 9 a conference was held under arrangements made by International Aeradio, Limited, Aerad Printing and Publishing Division, for the purpose of discussing the development of aeronautical flight information and chart presentation, having regard to the requirements of high-speed aircraft and high-speed precision landings. To meet these factors International Aeradio proposes to produce flight information in an entirely new form. The new presentation, which has had a very successful trial period on African coverage, will provide operators with completely reprinted books at frequent intervals, the books themselves being spirally bound so that they open flat. They are, therefore, convenient to use on the flight deck and the necessity for amending is obviated.

The principal item on the agenda was the manner in which the coverage for Europe and the Middle East, with its congestion of airways and aerodromes, could be broken down into a convenient number of manuals. There are 703 approach and landing charts and 16 radio navigation charts required to cover this area, and a four-manual layout was suggested by I.A.L.

Three New Versions of the Bristol Proteus

Three new versions of the Proteus turboprop engine, power plant of the Bristol Britannia air liner, have been announced by Bristol Aero-Engines, Limited. Designated the 760 series, the new engines are developed from the current 750 series and are designed to give a lower fuel consumption coupled, except in one case, with higher power. The first of the new variants, known as the Proteus 761, incorporates modifications to the compressor which give an improvement in specific fuel consumption of nearly 3 per cent under cruising conditions. Some of these engines are already in service in the Britannia 312s of B.O.A.C., and in order that a mixed bag of 750 and 760 series engines may be operated in the same aircraft, the take-off power has been kept back to much the same as that of the earlier engine. However, the 761 develops maximum power at considerably lower compression r.p.m., and this is expected to have a beneficial effect on the already high overhaul life. The Proteus 762 is physically almost identical with the 761, except for a different type of fuel injector and a recalibrated control unit. Although cruise ratings are the same, 5 per cent more power is available for take-off, giving approximately a 4,000-lb. increase in the payload capacity out of high-altitude or tropical airfields. Fuel consumption in the cruising condition is the same as for the Proteus 761. By means of a simple adjustment of the governor setting, the cruise power of both the Proteus 761 and 762 can be increased, and the engine will then become the third variant of the series—the Proteus 765. Take-off power of this engine is 4,445 tehp, and it will still retain the reduced specific fuel consumption of the 761.

LOSS TO LOCOMOTIVE INDUSTRY

The late Mr. W. D. LORIMER, B.A., M.I.Loco.E.

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We record with great regret that the British locomotive manufacturing industry has suffered a loss in the sudden death of Mr. William Douglas Lorimer, executive director of the North British Locomotive Co., Limited, and a former president of the Locomotive Manufacturers' Association. Born in 1906, Mr. Lorimer was educated at Rossall School and at Queens' College, Cambridge. He was the only son of Mr. William Lorimer, who was chairman of the North British Locomotive Co., Limited, from 1935 to 1946, and was a grandson of the late Sir William Lorimer, the chairman of that company from its formation in 1903 until his death in 1922. Mr. Douglas Lorimer, his father and his grandfather, formed an unbroken link of family service with the company since 1864, when the constituent firm of Dubs and Company was founded. His election in 1950 as the president of Locomotive Manufacturers' Association marked the first time that two members of the same family had held that position, Sir William Lorimer having been president from 1900 to 1922. Mr. Lorimer had been associated with the North British company for more than 30 years and became a director in 1943. He was a member of the Institution of Locomotive Engineers and in 1952 was a member of the British delegation to the World Economic Conference in Moscow.

LESSONS OF BUS STRIKE

More Cars—Fewer Riders

INEFFICIENT STREET USER

SPEED of traffic in Central London was little changed at the start of the recent London bus strike, but quickened as the strike continued, because progressively fewer cars entered the inner area. There was a big increase in the total number of cars and other road passenger vehicles coming into Central London but the number of people actually carried by them was far below the normal level when buses are running. These are two of the conclusions drawn by London Transport from a special census carried out between 7 and 10 a.m. at 54 entry points to the Central Area over the first four weeks of the strike, i.e. from May 7. The points were on the edge of an area bounded by Marylebone, Kings Cross, Old Street, Shoreditch, the Tower, the river bridges, Vauxhall, Hyde Park Corner, Marble Arch and Edgware Road.

Before the strike 70,000 road passenger vehicles of all kinds including 6,000 buses came into Central London daily in the morning rush period between 7 and 10 a.m. In the strike, as a result of the increase in private cars, motor cycles, scooters and cycles, this number rose to about 117,000. Despite this two-thirds increase, and with all the buses off the road, the number of people carried in by road was less than 60 per cent of normal—200,000 instead of 350,000. Normally 260,000 or nearly three-quarters of the 350,000 travel up by bus to work in Central London every day. The number of people per car coming into Central London increased during the strike to a surprisingly small extent. Normally the average load is 1.5 persons per car. During the strike it rose only to 1.9. Observers found that nearly half the cars were still carrying only the driver, while 60 per cent of the remainder carried only one passenger.

Morning Rush Started Earlier

In the first week of the strike the number of cars driven into Central London between 7 and 10 a.m. rose from 46,000 to 72,700—an increase of 58 per cent. But as motorists became increasingly aware of congestion and parking difficulties, the numbers dropped in the fourth week to 67,500—47 per cent up on normal. The biggest increase in cars was recorded between 7 and 8 a.m., when thousands more motorists travelled very early to avoid jams and find parking space. Car traffic in this first hour was 93 per cent up at the start of the strike, falling to 65 per cent at the end. The census also showed that 44,000 motor cycles, scooters and bicycles were used by people to get to work in Central London, nearly 2½ times as many as normal.

A census was taken of car flows in outer areas of London at 10 points where main trunk roads cross the North and South Circular roads. In the first two weeks of the strike 19,000 cars daily were counted (17 per cent up on normal) and later this rose to 21,200 (31 per cent up). London Transport suggests that the reason why the increase in car traffic in these outer areas was much less than in the Central Area at the start of the strike was because most of the cars going into London came from the inner suburbs inside the circular roads. As the strike went on more cars were passing the circular road census points although fewer were being recorded in Central London. This was probably because motorists were finding it better to leave their cars near inner suburban rail stations and complete their journey to the West End and City by train.

Car Total Declined

Summarising the position, before the strike, the number of London Transport buses and coaches passing into Central London during the a.m. peak was about 6,100, carrying a load of some 250,000 persons. Their place during the strike was taken by an additional 27,000 cars and perhaps an equal number of motor and pedal cycles. These additional privately-owned vehicles, together with the slightly increased number of persons carried by the normal car traffic, resulted in about 100,000 extra people coming to work in the central area by private means of transport—rather more at the beginning and rather less at the end of the strike. The remaining 150,000 presumably came in by the already heavily loaded Underground services or suburban services of British Railways, with a small proportion walking.

Because of the strike the number of vehicles entering the central area of London during the a.m. peak *increased* by roundly two-thirds, but the total volume of passengers carried was drastically *reduced* by over two-fifths. The true test of the efficiency of a street system (says the London Transport report) is not the number of vehicles that can be accommodated, but the total volume of passenger or goods traffic that can be passed through. By this criterion the London streets were used less efficiency, so far as passenger traffic was concerned, during the strike than when buses were running.

Comparison with 1956

The following shows the average number of all classes of vehicles counted at seven important road intersections in the City and West End, together with a comparison with the census taken by the Metropolitan Police in July, 1956:

		Percentage compared with Metropolitan Police counts taken in July, 1956				
Class of traffic	*Average number of vehicles per census point*	*All day*	*8-10 a.m.*	*10 a.m.-4 p.m.*	*4-7 p.m.*	*7-8 p.m.*
Private cars ..	23,900	+39	+44	+35	+41	+41
Commercial vehicles .	12,900	+16	+11	+15	+21	+35
"Public" vehicles ..	200	−96	−96	−96	−95	−96
Taxis	9,400	+12	+20	+14	+ 4	+14
Motor cycles	4,000	+44	+48	+44	+42	+30
Other vehicles ..	200	*	*	*	*	*
	50,600	+13	+14	+11	+15	+17
Pedal cycles	3,500	+43	+62	+38	+40	+ 5
Total ..	54,100	+14	+18	+11	+17	+17

* Number of vehicles too small to afford a valid measure of increase.

In considering these figures it should be borne in mind that there is a period of nearly two years between the two counts, and the volume of road traffic will have grown in the interim because of the increase in vehicle registrations (this is most clearly intimated by the statistics for commercial vehicles, but see below). Attention is drawn to the following:

(a) The overall growth of traffic was 14 per cent—the increase in the West End (16 per cent) being greater than in the City (11 per cent)

(b) Private cars and motor cycles showed substantial increases at all periods of the day, though perhaps up to half the increase may be attributed to the growth in the numbers of vehicles licensed

(c) The increased number of commercial vehicles, especially in the West End, was considerably more than might have been expected from normal growth in Greater London and might indicate, particularly in the evening, the use of these vehicles for passenger carrying.

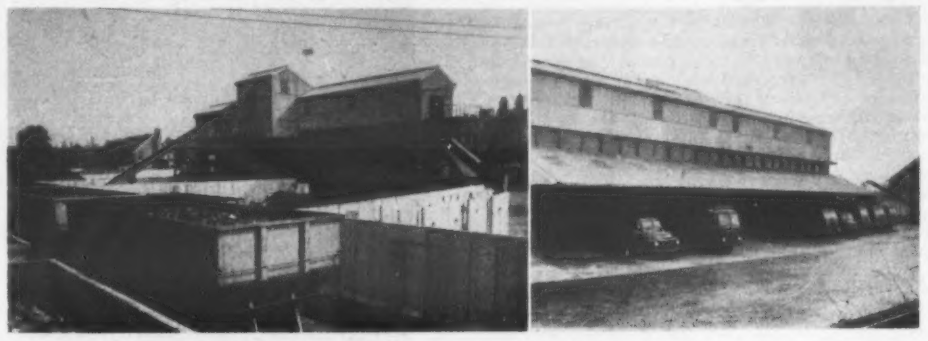
COAL DEPOT CONCENTRATION

Complete Mechanisation in North London

SUPPLIES IN TRAIN LOADS

DESIGNED specifically to handle domestic coal in train loads running direct from colliery to depot and to handle and bag it for delivery without recourse to shovel or undue physical effort, the Wood Green (Palace Gates) depot of Charrington Gardner, Locket and Co., Limited, represents the culmination of many years' development work by its subsidiary, Charrold, Limited, which was responsible for design and engineering. This wholly mechanised plant, the first of its kind in the country, received an official opening this week by Sir Brian Robertson, chairman of the B.T.C. It represents a first example of the concentration and mechanisation advocated in the Robson report on coal distribution. The report was discussed in MODERN TRANSPORT last week.

Situated immediately north of Palace Gates Station it is linked with the Great Northern main line and will serve domestic consumers over a wide area of North London, replacing eight former rail-connected coal depots. The annual throughput is at the rate of 55,000 tons. In its design the technical problems involved in handling coal by mechanical methods, especially the risk of excessive degradation, are confidently believed to have been overcome. Sir John Charrington, chairman of the Charrington Gardner Locket group of companies, expressed his gratitude for the excellent co-operation of the Eastern Region of British Railways, and the National Coal Board both in the East Midlands Division and in London in planning the allocation and transport of coal to Wood Green.



General view of Charrington coal depot at Palace Gates, with wagons over hoppers on left and stacking ground alongside; right, the road delivery bays with bagging machines

Three Trains a Week

Filled wagons arrive at the depot from the East Midlands at the rate of three trains a week, consisting each of 18 21-ton hopper-bottomed wagons per shunt. Smaller consignments are received from South Wales pits. There are three sidings at Palace Gates, two of 600-ft. length and one of 450 ft. The wagons are worked as a train, not only to reduce shunting and consequent degradation, but also to allow train load working and to receive the benefits of through routeing and fast train loads of braked wagons. On arrival trains are divided into two sections and shunted on to the sidings. This enables one engine to deliver the filled wagons to the siding and collect a load of empties for return to the pits, a system which considerably improves wagon utilisation and offers financial advantages to British Railways—advantages which, it is understood, have been shared with the trader.

Once the wagons have been delivered to the siding all movement is taken over by the siding staff. A powered winch is available for moving either half of the train and any wagon can be positioned exactly as required. The coal discharged from the wagon is received in a specially designed hopper of moderate dimensions located beneath the rails. Once the initial fall of coal from the wagon occurs a column is formed between the hopper and the wagon and discharge from the wagon cannot continue until coal is taken from the hopper. A system of water sprayers blankets the discharging area with a fine mist at rail level to reduce the dust nuisance to nearby properties.

Under Rail Hopper

The under rail hopper feeds on to an elevating conveyor, the feed being controlled by a reciprocating feeder to a rate well within the capacity of the conveyor. In action the flow of coal from the wagon can be seen as a pulsating column. The elevating conveyor is of the articulated steel pan type 127 ft. long at an angle of 30 deg. and it can handle 120 tons of coal per hour. Its vertical height is 50 ft. from bottom of the pit to the top of the conveyor. In this type of conveyor the direction of travel changes from horizontal to inclined with a saving not only of machinery complication but also the elimination of the drop that would otherwise occur if two conveyors were used. The conveyor operates at an angle steeper than is possible with a belt conveyor. This reduces the overall length required and in consequence the space required at ground level. Due to the cupping action of the pans, the volume of coal carried per foot run is greater than that for a rubber belt type conveyor of equal width. This extra capacity allows for the use of a lower belt speed and gives reduced wear on the moving parts and a gentle handling of the coal. Breakdown due to belt damage is eliminated and repair simplified.

At the discharge end of the conveyor the coal passes over a screening unit where any small, made in transit, can be removed. From this unit it is transferred to a shuttle conveyor for distribution to any one of a bank of 12 hoppers. The conveyor is 36 in. wide with a duck rubber and canvas belt on 2-ft. head and tail drums with 70-ft. centres. It is powered by a 3-h.p. geared motor and traversed by a motor of 7½ h.p. and has a capacity of 120 tons an hour. The shuttle conveyor travels over the hoppers on rails, and as it will cover half the hoppers in either direction about the centre, coal can be conveyed from the screen to any hopper by running the belt in the appropriate direction.

Too small a hopper would have slowed down throughput by making the intake of the plant tied too closely to the rate of unloading, while too large a hopper, by virtue of the necessarily long drop, would create an excessive amount of small.

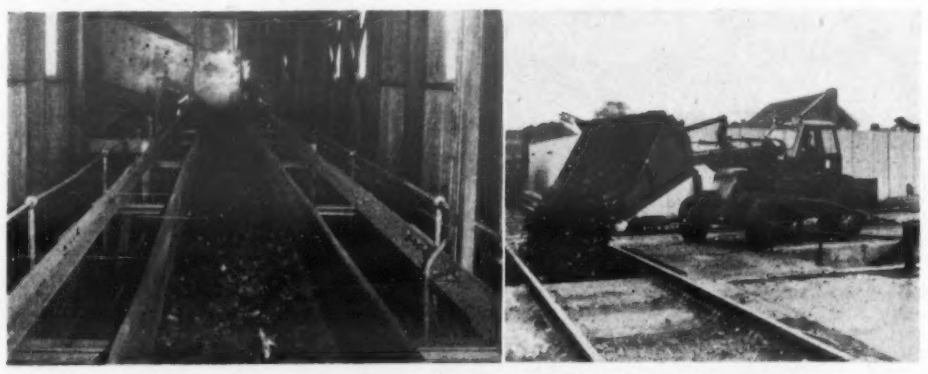
To achieve the best results in conjunction with the optimum capacity the hoppers are fitted with rubber-lined anti-breakage devices.

There are 12 hoppers, each of 20-ton capacity (which is more than sufficient to receive the achieved load of a nominal 21-ton wagon) with dimensions 10 ft. by 14 ft. high and with a total length of 120 ft. The discharge height is 11 ft. from the ground, platform height 3 ft. 6 in. from the ground, with a bag scale platform 7 ft. from the ground and a sack scale platform 6 ft. 4 in. from the ground.

Lorry Loading Bay

At the lorry loading bay the aim is to present an accurately weighed sack at a height convenient for lorry loading. The main staging is at lorry floor level, and the sack or bag is filled at backing height and lorry loading is a simple carry from the weighing machine to the vehicle. The sack filling and weighing arrangements are the result of several years' study and incorporate in their design a feeder device that guarantees a consistent flow of coal of any size up to an 8-in. cube. In operation much larger coal than this has been handled and the limitation is really based on what can be conveniently put into a bag. For filling and weighing the sack is placed on the platform of a weighing machine and held up to a filling shoot. It is normal for one of a two-man vehicle crew to weigh while the other shoulders the bags for loading on to the lorry.

Coal is brought forward by pressure on a foot-switch and a correct weighing made by reference to an indicating pointer on an adjacent scale. The fine control obtained over the rate of flow and the clear view of the coal coming forward makes accurate weighing easy. The Charrold bagging units are powered by 1½-h.p. geared motors and each unit has a capacity of 10 tons an hour.



Transverse conveyor moving coal to hoppers; right, Muir Hill shovel placing stocked coal into hopper circuit for bagging

To provide a ballast stock to cover seasonal or other fluctuations in supply and demand, storage bays are provided on the site. The walls of these bays are formed from Stelcon free standing units and capacity is provided for 6,000 tons. When coal is to be put into stock, the shuttle conveyor is traversed beyond the end of the hopper bank and coal discharged on to a long chute. The chute conveys the coal down to ground level from where it can be picked up by mobile shovel and transported to the appropriate storage place. In order to make full use of the space available a mobile conveyor elevates the coal if required. When stock is recovered coal is picked up from the ground with a mobile shovel and put back into the hopper circuit.

Road Distribution Area

The distribution area of the new depot is enclosed roughly within a seven-mile radius. The eight depots closed were at New Southgate, Oakleigh Park, Palmers Green, Stoke Newington, South Tottenham, Hornsey, Cranley Gardens (Muswell Hill) and Highgate, but at five of these branch offices are retained as public order offices. Their managers are now relieved of labour and transport problems and the 30 or so road vehicles, of 5- to 10-ton capacity, stationed at Palace Gates work more efficiently than as scattered groups of vehicles at individual depots.

It is estimated that each can deliver 15 tons a day at peak periods, compared with only 10 tons before, thanks to the two hours a day saved in

(*Continued on page 12*)

CEREMONY AT PADDINGTON

Naming of "Sir Brian Robertson"

BASTILLE day of 1958 has acquired a considerable importance in the history of the Western Region locomotive works at Swindon. On July 14 D800, first of the main-line diesel locomotives to be built there, was named *Sir Brian Robertson* in a ceremony at Paddington. The remainder of the class will bear names of warships.

Welcoming Sir Brian Robertson, Lady Robertson and the other guests Mr. R. F. Hanks, chairman of the Western Area Board of the British Transport Commission, said it was for the Western Region a very special occasion. "Here we have the first main-line diesel express locomotive produced in the Western Region's shops at Swindon, the nursery for over 100 years of a famous line of steam locomotives ranging from the old broad gauge single-wheelers right up to the Saints, the Stars, the Castles and the Kings. And latterly, as a sort of prelude to change, a good sprinkling of British Railways standard engines."

At the naming of Western Region D800 diesel-hydraulic locomotive "Sir Brian Robertson" at Paddington on July 14

From the left: Sir Brian Robertson, chairman, British Transport Commission; Mr. K. W. C. Grand, general manager, Western Region; Mr. J. W. Watkins, member, B.T.C.; Sir John Benstead, deputy chairman, B.T.C.; and Mr. R. F. Hanks, part-time member, B.T.C., and chairman, Western Area Board

A Different Concept

"This new diesel locomotive is, in several important respects, quite different to the concept of the locomotive engineers in the United States where electric transmission is almost universal. Western Region, in turning over to diesel motive power, always had it in mind to try and save any weight which was not necessary for adhesion. And the ways to do this seemed to lie in the direction of lighter framing, the use of a high-speed engine and hydraulic transmission in place of dynamo and motor. In this sort of reasoning and the steps which were taken subsequently to put it into practice I am sure we should all like to acknowledge the understanding, the co-operation and the help of the British Transport Commission and its technical advisers.

"Eventually a highly specialised design by the Krauss-Maffei Company of Germany incorporating two high-speed diesel engines by Maybach and two Mekydro hydraulic transmissions seemed to fill the bill almost exactly. The finished product which you see today weighs rather less than 80 tons and in power output is the equivalent of a Castle at its best. All the main components are to be constructed in the United Kingdom in future.

"It is no reflection upon British industry that the Western Region should favour a design evolved on the Continent. Indeed, I feel very strongly that, working for the British Transport Commission and British Railways, we should have been failing in our duty if we had not explored fresh avenues of design in our determination to get the very best. Obviously we cannot claim yet that this type of locomotive is the best, but it has certainly done very well in Germany and in a good many other countries too, and we feel confident that mileages claimed between shoppings is far from the truth, for the German loading gauge is considerably more generous than ours. I know I speak for the board and management when I congratulate most heartily the chief mechanical and electrical engineer and all those many clever people at Swindon right through the procedure of design, production, planning and manufacture who have achieved what you see here.

"This is an historic occasion and a very special day in the annals of the Western Region. And so, quite naturally both board and management pondered carefully as to how it might be suitably marked and remembered, and it was our spontaneous wish that this first Swindon produced diesel express locomotive should be named after the chairman of the British Transport Commission. That permission was forthcoming with extreme reluctance. With great respect to my chairman, the request was not an unreasonable one, because here we have modernisation in being and Sir Brian, more than any other living man, has been responsible for initiating and pressing on with every phase of modernising British Railways and giving our nation a railway system second to none in the whole world. And the plan is succeeding with greater rapidity than many people realise. I now have much pleasure in asking Mr. Grand to unveil the nameplate."

Complex Job

"Swindon has tackled an exceedingly complex engineering job with great skill and with zeal. From what I said just now it might be supposed that the drawings were handed over on a plate and that construction was started at once. That make our old and faithful steam locomotives look rather silly by comparison. We are deeply grateful to our friends of the Krauss-Maffei and Maybach companies for their unstinted help and advice and to the German Federal Railways for the manner in which they have placed at our disposal, so readily, all their experience and data in operating quite a number of these locomotives over a period of years."

I.K.B.'s Advice

After Mr. K. W. C. Grand, general manager, Western Region, had unveiled the nameplate, Sir Brian acknowledged the honour done him, despite his feeling that it was like having a memorial plaque in situ while alive! He said that he was sure that if Brunel were looking down on that gracious Victorian station, I.K.B. would say to the locomotive, "Get out on the line; do your stuff and win your spurs. For myself I would add, as you carry my name you had jolly well better behave yourself."

The proceedings concluded with the presentation to Lady Robertson of a bouquet by Mr. R. Hobbs on behalf of the Swindon Works Committee.

Swindon-Built Main-Line Diesel

(Continued from page 3)

from the bending point of view and for the tractive forces, these members and the tubes being connected by transverse plate members, the whole being welded together. The resulting structure is then covered on the top and sides by sheet steel plate, which is welded to it. Suitable holes in the decking are provided for the transmission and engine sump. Most of the steel sheeting for the underframe is $\frac{5}{32}$ in. thick.

Superstructure

The superstructure consists of framing of angle Z and other sections folded from steel plate of 12 s.w.g. (.104 in.) thickness at Swindon Works, and covered by steel sheeting 14 s.w.g. (.078 in.) thick. The main components of the framing are four cantrails with horizontal and vertical members connecting these to the underframe. The steel skin covering the framing is welded to it and to the underframe, forming a box-like construction.

For rigidity, two bulkheads are provided which are welded to the sides and underframe and which separate the cabs from the engine-room. These bulkheads also incorporate transverse roof members, more of which are provided at intervals along the length of the locomotive, dividing the roof into seven sections. Five of these sections are covered by removable roof panels through which the transmissions, engines and carriage warming boiler can be lifted. The framing of the roof panels is of aluminium welded construction.

The bogie frames are also of all-welded construction, composed of mild steel plate, mainly $\frac{1}{16}$ in. or $\frac{1}{8}$ in. thick. The centre of the bogie is a hollow rectangle into which projects a part of the underframe and the lower part of the transmission containing the output shaft and flanges. The traction and braking forces are transmitted between bogie and underframe by means of curved manganese steel rubbing plates. Transverse forces are transmitted by a linkage system connecting bogie to underframe, which allows the former to turn relative to the latter about a geometrical centre. The ends of the links are provided with flexible rubber bearings which thus need no lubrication.

The body weight is transmitted to each bogie by means of brackets connected by pin-joints to the buckles of two large laminated springs. From these springs the weight is transferred through coil springs to the bogie frame, and thence by means of laminated springs to the top of the roller bearing casings and finally to the axle. The S.K.F. roller bearings are of the self-aligning type of ample capacity. No axleboxes and horns of the conventional type are used, but each bearing is contained in a casing forming an arm which is connected to the bogie frame by means of large pins with flexible rubber bearings.

(To be continued)

Two new electrodes introduced by Quasi-Arc, Limited, Bilston, are a new-type Armoid No. 1, designed for the downhand welding of nickel chromium molybdenum and armour plate (carrying tentative approval of the Fighting Vehicles Research and Development Establishment, M.o.S.) and a new-type Mangcross designed for strength welding manganese steel, for welding other steels to manganese steel and for reinforcing worn carbon and manganese steel parts.

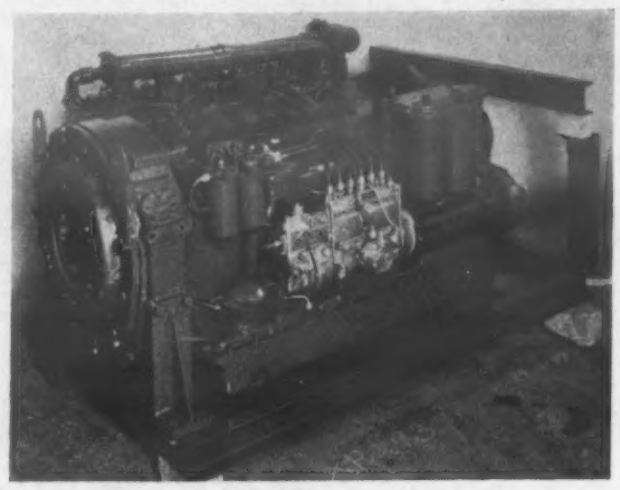
A 60-ft. Articulated Bus or Coach

(*Continued from page 5*)

2,100 r.p.m. and a maximum torque of 790 lb./ft. The bore is 5⅛ in. and the stroke 6 in., while the capacity is 742.64 cu. in., or 12.17 litres for those who are metrically minded and the compression ratio is 14 to 1. Reference may also be made to the lubricating and cooling systems. The former is a wet sump with pack type heat exchanger and there are full flow filters, while the latter uses a centrifugal circulating pump, the pressurised system being thermostatically controlled.

The engine, single-disc dry clutch and the six-speed ZF-Media gearbox are assembled in a rigid unit which is flexibly mounted on an easily removable frame. The driving axle is driven by a short shaft. The radiator is mounted in front of the engine on the left-hand side of the bus and the radiator fan is driven by a mitre-gear with release clutch.

The engine embodies a Simms fuel-injection pump and mechanical governor operating at all speeds, while the starter is a C.A.V. 24-volt unit and the generator a Delco-Remy 12-volt 160-amp model. There is a power take-off from the nose of the crankshaft to drive the fan and other auxiliaries and the Bendix Westinghouse air compressor has a delivery rate of 15 cu. ft.-min. at 1,000 r.p.m.



The Rolls-Royce C6SFLM supercharged diesel engine installed in the Super Golden Eagle develops 275 b.h.p. at 2,100 r.p.m.

Experience on the Road

As we indicated earlier, the presence of the coach in this country—it actually returned to the Continent for shipment to the United States—made it possible to experience its riding qualities and something of its performance, although the conditions generally were so different from those which it will normally encounter in service that there is no real measure of comparison. The smooth street surfaces in London are the envy of many visiting Americans and it was only at points like the temporary surfaces near the Chiswick roundabout on the Great West Road that the vehicle met something like the quite frequent main street conditions of United States towns. Despite its length it really proved very manoeuvrable, although the police were taking no chances and there were either escorts or roadside guardians over the routes used.

With an engine of the power of the Rolls-Royce unit the coach is particularly happy when it is doing sustained runs at fairly high speeds but that too was not possible here. We found it a little difficult to estimate the speed at certain points but we were seldom above the strictly legal 30 m.p.h. Acceleration from a stop was steady but not startling and the driver made no endeavour to demonstrate other than normal practice. This was probably all to the good because it then became possible to see things as an American traveller might when leaving, say New York or some other large city. The noise level inside was quite reasonable but this again was hardly testing it in its normal circumstances since all or most of the side windows were open; it was a warm day.

Before turning from the actual vehicle to one or two aspects of Continental Trailways operation, it may be mentioned that articulated coaches for city and intercity service have latterly become quite numerous in Germany; Kassbohrer has already built more than 100 of them. The new German road regulations which, as already recorded in MODERN TRANSPORT, forbid the use of bus trailers have induced the transport operator and the bus manufacturers to take an increased interest in the building and operation of articulated buses. Advantages claimed for them are their big capacity and reduced staff requirements, while the articulated unit has better turning propensities than a bus plus trailer.

Variety of Facilities

The basis of the Continental Trailways network in the United States is, wherever possible, to provide several journeys a day on trunk routes in order to attract traffic by giving a fair selection of travel times. This also assists another aim of encouraging use of the stopover facilities where people have no desire to travel throughout the 24 hours or where they wish to break their journey for one reason or another. Apart from this the president of the company, Mr. Maurice E. Moore, is convinced that there is scope for competing with the airlines—it is significant that few people in the United States today seem even to try to take the railways into account when discussing competition for public passenger transport. Various classes of travel by coach are accordingly provided and the four Super Golden Eagles are among those responsible for what is advertised as a "five star luxury service." The adjuncts include a uniformed hostess, the provision of newspapers, magazines and games, complementary refreshments and an electric heater for infants' bottles. Furthermore male passengers may borrow an electric razor if they so desire. Annual mileage of Continental Trailways coaches is of the order of 120 million representing nearly £12 million of fares. With a fleet of 3,000 coaches it will be seen that each averages 40,000 miles annually.

The lounge at the rear of the coach and, right, one of the multi-position reclining seats

NEW COAL DEPOT

(*Continued from page 10*)

loading. Moreover, the period of maximum demand during the winter tended to coincide with a peak in illnesses owing to the hardship of working in the open. Undercover bagging plant obviates this. The total manual staff employed at the depot is three, from wagon to sack filling feeders. Charrold, Limited, is prepared to design similar installations for traders elsewhere at home or abroad.

Sack filling and weighing in progress

The service department of Mercedes-Benz (Great Britain), Limited, has moved to the company's new headquarters at Brentford on the Great West Road, a mile from Chiswick roundabout, telephone Ealing 3070.

LEYLAND FIRE ENGINES

Re-Enter Market

IN collaboration with equipment manufacturers, Leyland Motors, Limited, is shortly to re-enter the fire engine market after a lapse of nearly 20 years. In years prior to 1939 the company built large numbers of this type of vehicle for service in this country. It also exported them and many of these vehicles, from Shanghai to Buenos Aires, are still in regular service. The new models which are envisaged will differ in major respects from conventional fire-fighting vehicles.

The Leyland fire engine business will be handled in future in conjunction with equipment manufacturers by Mr. J. S. Lees, home sales manager (passenger vehicles). Gear ratios that are planned for the new Leyland fire engines will give high road speeds and large pumping capacities and all the vehicles will be powered by diesel engines. Leyland introduced the diesel-engined fire engine in 1938 when it built a limousine-type machine for the London County Council powered by a Leyland 8.6-litre diesel. The machine had a pumping capacity of 830 gal. of water per min, at 100 lb. pressure per sq. in. It had a lift of 28 ft. in 20 sec. The first Leyland fire engine was built for Dublin in 1910.

LETTER TO THE EDITOR

Handley Page History

SIR,—Handley Page, Limited, the first company to be constituted exclusively for the design and construction of aeroplanes, will have been in existence for half a century by the middle of next year. A book, recording the company's history as completely as possible, will be published to mark this occasion. May we ask any of your readers with records, photographs or memories relating to Handley Page, Limited, and its aircraft to get in touch with us?—Yours faithfully,

S. A. H. SCUFFHAM.

Handley Page, Limited,
Cricklewood, London, N.W.2.

CLASSIFIED ADVERTISEMENTS

RATES.—The minimum charge for classified advertisements is 7s. for 14 words or less, and 6d. for each additional word. The name and address of the advertiser is charged at the same rate. If a box number is used 2s. extra is charged to cover our name and address and postage. If set in paragraph form each paragraph is estimated separately. Official Notices and semi-display in the classified columns are charged at the rate of 45s. per single column inch.

CLASSIFIED ADVERTISEMENTS should be addressed to THE MANAGER, Classified Advertisements, MODERN TRANSPORT, Russell Court, 3-16 Woburn Place, London, W.C.1.

SITUATION VACANT

TRANSPORT. Man, 20/21, required by large industrial concern in North Wembley area to keep vehicle maintenance records for fleet of 250 vehicles and generally to assist on repair side. Preferably some knowledge and interest in vehicle maintenance. Salary £8 per week. Pension scheme and canteen. Write Box No. 3792, MODERN TRANSPORT, 3-16 Woburn Place, London, W.C.1.

PUBLICATION

NINETEENTH CENTURY RAILWAY CARRIAGES. By C. Hamilton Ellis. Profusely illustrated. Order your copy through the publishers, MODERN TRANSPORT, 3-16 Woburn Place, London, W.C.1. Price 22s. post free.

BUS TRANSPORT IN WEST PAKISTAN

*Features of Unit Organisation**

UNDER NATIONAL BOARD

PARTITION led to withdrawal of service from the Srinagar route on October 22, 1947, but as a number of non-Muslim operators left the West Punjab at the same time the vehicles were put to use on routes in the Chakwal district, formerly covered by the Salt Range Transport Company, on December 15, 1947. The buses were small hill-type vehicles and it was therefore thought best to use them in the Salt Range area. When new vehicles became available the trunk route between Rawalpindi and Lahore was opened on December 31, 1948; this is now covered by an hourly service. A number of additional services was started in 1949-50 and on April 20, 1950, the Rawalpindi local system, which consisted of four routes operated by the 13 buses of the Rawalpindi Electric Power Company, was taken over. This was soon expanded, and additional routes were opened up in the Mandi Bahauddin, Khewra and Chakwal districts during the next years.

West Pakistan showing headquarter towns of national bus system

Around Rawalpindi

By courtesy of Raja Umar Hiyat, traffic manager at Pindi, we are able to give some further details of the present operations in that district. The local services operate on 18 routes, nearly all of which traverse the main-road bridge across the river near the city centre; on the principal routes there are up to 30 return journeys during the day. According to the last annual report the local fleet in March, 1956, consisted of six Austin and five Chevrolet buses with petrol engines and 11 Ford, six Chevrolet, two Fargo and two Morris with diesel engines. On these buses there is only one class of travel; the fare rate is six pies (about 0.5d.) per mile, and earnings per mile on different routes vary from 10d. to 18d. Difficulty in obtaining vehicles hindered the modernisation of the fleet; the 11 petrol-engined buses were fully depreciated after working 150,000 miles each on "district" routes before being transferred to local service work.

The "district wing" looks after the operation of a larger fleet, which in March, 1956, was made up of 58 petrol-engined buses (32 Chevrolet, 18 Austin, four Ford, two Morris and one each Commer and Dodge) and 130 with diesel engines (40 Guy, 30 Morris, 19 Ford, 17 Fargo, 10 Dodge, nine Thames and six Morris) operating on 42 routes. The most important service is that from Rawalpindi to Lahore, on which buses leave Pindi every hour from 4.30 a.m. to 2.30 p.m. and cover the 172-mile run in 7¼ hours; there are also three other operators on the route. It might be expected that this service would be partly worked by the Lahore unit, but in fact L.O.S. does not operate on long-distance routes and the position of the city close to the border is such that these can be conveniently covered from other depots such as Multan and Rawalpindi.

Lodging Turns

There is thus the curiosity that the Lahore—Sialkot route, which does not lie within 100 miles of Rawalpindi, is covered five times a day by the Pindi unit. The allocation of road staff to lodging turns on such routes as Pindi—Lahore does not present any problems, as the driver carries his bedding roll and is happy to sleep in the bus or in the open and so make little inroad on his subsistence allowance. Besides the services radiating from Pindi to Murree and beyond, to Kohat and Bannu, and to Talagang, Mianwali and Sargodha, there are a number based on Chakwal (the centre for the Salt Range) and on Mandi Bahauddin (which lies between the Jhelum and Chenar rivers). The only section with a frequent service in Mandi—Phalia with 13 trips a day; there are seven trips a day between Phalia and Gujrat, but otherwise most sections have one to three journeys daily.

Earnings on the main road are 15½ annas per mile; on other routes they vary from 12 to 25 annas per mile. Fares are standardised at 6 pies per mile for lower class (the rear part of the bus) and 9 pies per mile upper class, so that the journey from Pindi to Lahore in the front seat costs about Rs.8. For those who prefer to pay more for faster and more luxurious travel, complete with radio, there is a station wagon service connecting the two towns in 4½ hours at a fare of Rs.17/3/-; seats may be reserved in advance without extra charge and the service is advertised as "Next to air for comfort, safety, punctuality." In summer a similar service connects the hill resort of Muree with Lahore, and a curiosity here is that earnings are 13 annas a mile in the southbound direction but only half as much on the journeys up to the hills. On the local and district services together a staff of 648 is employed and in 1956-57 more than 6 million passengers were carried. Receipts were just under 5 million rupees and gross profit Rs.679,468/7/4.

Well-Appointed Bus Station

At Rawalpindi all the "district" services terminate at the well-appointed modern bus station, with booking offices and separate waiting-rooms, provided with beds for ladies and gentlemen. (It should perhaps be explained that a bed consists of a woven base on which the passenger spreads his own bedding roll if he wishes to sleep in comfort.) The bus workshops are situated behind the bus station.

As mentioned earlier, the only operator connecting Pindi with Peshawar is the Government Transport Service Peshawar, but private operators cover this road as far as Wah, where there is a large ordnance factory. Another road on which there is an important independent service is that to Murree, on which there are six trips a day by P.T.S. Rawalpindi and an hourly service (increased to 17 journeys a day in summer) by the Pindi Murree Transport, Limited. This concern has the mail contract and in addition to the bus service advertises a twice-daily luxury service by five-seater Ford Custom at a fare of Rs.37/8/- single, Rs.65 return for the whole vehicle—the upper-class bus fare for the 39 miles being Rs.2/8/- single. Pindi Murree Transport also operates five journeys a day between Pindi and Kohala, which is not served by P.T.S.

Lyallpur

The Lyallpur unit had its origin on November 1, 1948. It had been intended to serve 22 routes in the district to the exclusion of private operators, but the latter secured an injunction restraining the Government from stopping their petrol or preventing their operating. The unit has continued to expand and in 1955-56 carried more than

(*Continued on page* 14)

A scene in the bus station at Rawalpindi

* First portion appeared March 15.

Bus Transport in West Pakistan

(*Continued from page 13*)

4 million passengers in its 153 vehicles on 53 routes, but on all of these it has to encounter the opposition of private operators. A bus station, depot and office block in Lyallpur was completed in 1951, but is already in need of extension; an overhaul workshop was constructed in 1952.

Operation in the D.G. Khan area by the Government Transport Service started on March 1, 1947, when a fleet of 25 buses and 9 trucks displaced the privately-owned vehicles of the Northern and Deroyal Transport Co., Limited, on 12 routes. By April 1, 1948, the fleet had increased to 54, a number of new routes having been opened up. There are now 163 buses operating on 47 "district" routes in addition to the five local routes of the Multan Omnibus Service which was inaugurated with 10 buses on May 22, 1950. The number of passengers carried in 1955-56 was nearly seven million. This area also has its own overhaul workshop adjacent to the office and central bus stand.

Punjab R.T.B. Headquarters

The Punjab Road Transport Board, although functioning in four self-contained units for operational purposes, had an efficient headquarters organisation covering such matters as stores and purchasing, accounts and publicity; among its activities was the production of a monthly journal in English and Urdu, *The Punjab Transport*, from articles in which much of the above historical and statistical information has been taken. This is continuing under the name of *Road Transport* as the monthly magazine of the West Pakistan Road Transport Board.

Timetables were published periodically in the areas in a language to suit the majority of the passengers; thus the 72-page booklet covering the Rawalpindi area in 1957 is in Urdu, with advertisements in English, but no route list or other travel information in that language. However, the service numbers and the map enable a particular service to be identified, and times and mileages and fares for both classes are set out in full detail under each group of services. Short workings are always distinguished by a different number.

Bodybuilding Shops

For some years the P.R.T.B. has built its own bodies, having acquired a workshop in Lahore for this purpose in 1948. Owing to difficulty in obtaining machinery and materials it was some time before production was under way, but the first six bodies were completed by March, 1952, and another 15 by the end of 1953. Output has since increased and bodies have been made for the Sind and N.W.F.P. Boards as well as for the Punjab.

Also in Lahore is the training centre for bus drivers, conductors and booking clerks, with residential accommodation for the benefit of those who come from distance areas for courses. There is also a school for the children of employees. The most recent development in staff training is the institution of a nine-months course for traffic probationers to train members of the managerial staff on the traffic side. The Board's staff is provided with winter and summer uniform; dispensaries providing free medical attention and drugs, etc., are in the four large centres. The Board also contributes towards the cost of sports facilities for the staff in the various areas.

Sind and N.W. Frontier

The Punjab R.T.B. has contributed some two-thirds of the total fleet of the W.P.R.T.B.; most of the remainder came from the North-West Frontier Province R.T.B. and the Sind R.T.B. No nationalised transport was operating in the large former province of Baluchistan. The Government Commercial Transport in Sind started in Karachi district in 1948 and gradually expanded through the province. A new workshop in the former aerodrome at Hyderabad was completed in 1953 and in the following year the Sind Road Transport, as it had then become, moved its headquarters to that city. New office buildings, maintenance workshops and body building workshop have since been constructed; output of bodies is one a month and is expected to rise to five each month soon. The undertaking now has 134 vehicles operating more than 10,000 bus-miles per day over 963 route-miles; under a new five-year plan it is proposed to take over another 159 routes now covered by private operators.

In the North West Frontier Province, the Government Transport Service started operations with seven buses in November, 1947, and worked in competition with other operators; three routes linked Peshawar with Rawalpindi, Abbottabad and Newshera and these were nationalised in 1951. As in other areas, private operators are being gradually eliminated from the remaining routes. The N.W.F.P. Road Transport Board took over as an autonomous body in April, 1952, and now operates 77 petrol and 110 diesel buses as well as three trucks and 19 jeeps. Besides its repair workshops the Board has a bodybuilding works, and among the recent productions of this have been de luxe bodies for four long-wheelbase Tiger Cubs for use on the Rawalpindi and Abbottabad routes. At the other extreme is a jeep service in the Kaghan Valley, started in 1950, which runs at a loss but is maintained because of its special importance. The fleetname "Government Transport Service" is still used on the buses, some of which now have an unpainted aluminium finish; the fleet covers some 15,000 miles a day. Roadways House in Peshawar, constructed in 1956, includes an up-to-date bus station, and stations in other important centres are to be provided under the present five-year plan.

Smallest Unit

The smallest unit of the new Board is the Khairpur Government Transport, which started with four buses in 1953 in this formerly independent state. The absence of metalled roads hampered development, but by the time of handing over the fleet had grown to 17 vehicles covering 1,300 bus-miles each day and making an annual net profit of some 4 lakhs of rupees (£30,000).

Appointments to the new West Pakistan R.T.B. have recently been announced The chairman is Mr. Mohammed Shariff Khan, who is also the chairman of the Provincial Transport Authority; he was previously a senior officer in the police in Bombay and (after partition) in Karachi, but acted as regional transport controller for several years during the war. The remainder of the Board consists of Mr. Masud, Secretary to the Government of West Pakistan, Communications and Works; Mr. A. G. N. Kazi, Secretary to the Government of West Pakistan, Finance Department; Mr. M. K. Mohyud Din, chief commercial manager, North Western Railway; Mr. A. A. Abbasi, chief operating superintendent, North Western Railway; Mr. K. A. Mobin, financial adviser and chief accounts officer, North Western Railway; and one other member to be appointed.

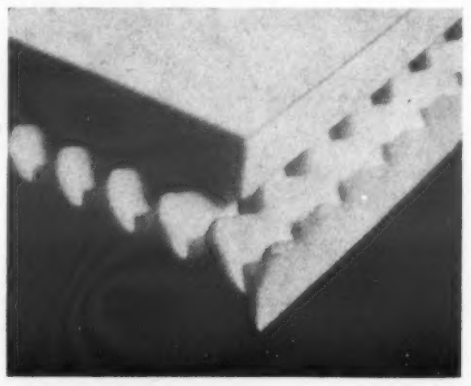
Under the chairman, who will be assisted by a secretary, are to be three chief executives—the general manager (traffic), the chief accountant, and the chief technical officer. Under the general manager will be the regional manager (Central) with headquarters at Lahore, the regional manager (Northern) with headquarters at Peshawar, and the regional manager (Western) with headquarters at Hyderabad. Mr. Mohammed Iqbal, a qualified accountant who has been with the Punjab Transport Service since 1945, and has served as general manager at Lyallpur and subsequently in Rawalpindi and Lahore, has been appointed secretary of the Board. A central site in Lahore has been earmarked for the erection of a new headquarters. Among the Board's duties will be the co-ordination of road and rail services and the complete nationalisation of road passenger services in the province.

★

FLEXIBLE P.V.C. FOAM

Possibilities in Transport

OPEN-CELL vinyl foam based on Geon p.v.c. is now being made by Elson and Robbins, Limited, Long Eaton, Nottingham, using a new continuous process. This is the first time that vinyl foam has been produced commercially in this country and it is expected that its greatest



Pieces of Geon p.v.c. open-cell foam cushioning material in slab and profile form

outlet will be in cushioning applications, such as transport vehicle and furniture upholstery.

Foam made with Geon p.v.c. can be welded to itself as well as to p.v.c. sheeting to produce attractive quilted and other effects. It will not rot or perish and does not propagate flame. This is a very important factor where safety is concerned.

OFFICIAL NOTICE

EAST AFRICAN RAILWAYS AND HARBOURS ADMINISTRATION

TELEGRAPH ASSISTANT

TO be responsible to the Signal and Telegraph Engineer for the installation and maintenance of all signalling and telegraph apparatus.

Pensionable appointment in salary range £1,170 to £1,755 per annum. Free passages for officer, wife and family; free furnished quarters if available. Free medical. but not dental, attention. Generous leave.

Candidates, between 25 and 35, must be A.M.I.R.S.E. and have thorough experience of telecommunication systems associated with railways, and in particular single- and double-line blocks, traffic control telephone, and telegraph systems, and be capable of designing, estimating and controlling the maintenance organisation associated with such installations. Knowledge of mechanical and power signalling systems and radio systems an advantage.

Write, Director of Recruitment, Colonial Office, London, S.W.1, stating briefly age, qualifications and experience, quoting BCD/173/053.

SOCIAL AND PERSONAL

Nigerian Railway Corporation

COLONEL SIR RALF EMERSON, Kt., C.I.E., O.B.E., M.I.C.E., M.Inst.T., first chairman and general manager of the Nigerian Railway Corporation on its formation in 1955, on June 30, 1958, delegated the function of general manager to Mr. R. K. Innes, M.I.C.E., M.I.Mech.E., who was previously chief mechanical engineer. Sir Ralf will remain chairman and will be domiciled in England, visiting Nigeria as required for corporation meetings.

* * *

At the annual general meeting of the British Transport Vehicle Manufacturers Association (Britavema) on July 10, Sir Henry Spurrier, chairman and managing director, Leyland Motors, Limited, was elected chairman for the ensuing year.

* * *

Mr. A. G. Minty, who has been appointed line traffic officer (motive power), Crewe, London Midland Region, B.R., was educated at Brighton College and began his railway career with the former G.N.R. in 1922 as a premium apprentice at Doncaster. After experience in various posts, Mr. Minty was promoted from locomotive inspector to locomotive shedmaster. He held joint supervisory posts of locomotive shedmaster and stationmaster before, in 1939, being appointed assistant district locomotive superintendent, Newcastle upon Tyne, L.N.E.R.. Five years later he was transferred to Sunderland as acting district locomotive superintendent, and in 1945 became district motive power superintendent, Hull. In 1950 he became district motive power superintendent, Willesden, London Midland Region, and in 1955 divisional motive power superintendent, Manchester, whence he has now transferred to Crewe.

Mr. A. G. Minty

* * *

Colleagues and friends from all departments of Pirelli, Limited, attended a dinner recently to bid farewell to Mr. York H. (Jim) Sowter on his retirement from the position of sales manager of the commercial tyre division. Mr. Sowter joined the company nearly 30 years ago and had been sales manager since 1950.

* * *

H.M. the Queen has been graciously pleased to approve admission of Mr. J. W. S. Pegrum, general manager of the Rhodesia Railways, to the grade of Officer (Brother) in the Most Venerable Order of St. John of Jerusalem in the Commandery in Central Africa. The Deputy Commissioner of the R.R. district, Dr. J. W. Pickles, has been promoted from Serving Brother to the grade of Officer (Brother).

* * *

Mr. R. A. Long, principal traffic costing officer, Liverpool Street, has been appointed economic survey officer, Eastern Region, B.R. In this capacity he will take full charge of the economic survey office set up early in 1957 to co-ordinate the work of the traffic costing service and accountant in the preparation of figures to assist management decisions on questions of prices, investment and reorganisation of services. Mr. Long was appointed senior traffic costing officer, Liverpool Street, in 1953 and later redesignated principal traffic costing officer. In addition, he took administrative charge of the economic survey office, Eastern Region, from its inception in 1957.

Sir Reginald Kerr, general manager, British Waterways, presenting challenge shield for the best all-round depot to Sampson Road depot in Birmingham

The president and secretary of the Institution of Highway Engineers recently attended a meeting of members and potential members in Carlisle when a further branch of the Institution was inaugurated. This, the 11th, is to be known as the Northern branch, covering the counties of Cumberland and Westmorland.

* * *

The turbo-generator division and the heavy-plant division of Associated Electrical Industries became operative on July 1. These are the first two divisions to be formed following the announcement at the A.E.I. annual meeting that a divisional organisation was to be set up to handle the design, manufacture and sales of all products of the Metropolitan-Vickers and British Thomson-Houston companies. The turbo-generator division will be managed by M.-V. and the heavy-plant division by B.T.H.

* * *

We regret to record the death of Mr. W. L. Watson, C.B.E., A.M.I.C.E., M.I.Loco.E., formerly Engineer-in-Chief to the Crown Agents for the Colonies. Mr. Watson trained in the motive power department of the Great North of Scotland Railway and at the Swindon works of the Great Western Railway before joining engineering design department of the Crown Agents for the Colonies in 1912. He became chief engineer (contracts) in 1935 and in 1948, when the former designs, contracts and engineering inspection departments of the Crown Agents were grouped under an engineer-in-chief, Mr. Watson held that appointment until his retirement in 1949.

Mr. D. H. Foulds, commercial manager, British Road Services, has been appointed chairman of Anglo-Continental Container Services (London), Limited, and its counterpart in Belfast, in which B.R.S. recently acquired a controlling interest. Mr. G. A. Ashley, freight manager of the Transport Ferry Service of Frank Bustard and Sons, Limited, and Mr. W. Parkinson, district manager, Preston, B.R.S., have also joined the boards of both A.C.C.S. companies.

* * *

Mr. E. W. Arkle, director of traffic services, London Midland Region, British Railways, and Mr. A. W. Tait, assistant general manager, Eastern Region, B.R., have been appointed to the board of the Atlantic Steam Navigation Co., Limited, which operates the Transport Ferry Service, and of its subsidiary, Frank Bustard and Sons, Limited.

* * *

H.E. Mr. Per. Prebensen, the Norwegian Ambassador in London, recently presented Mr. F. W. Goring, stationmaster, Kings Cross, Eastern Region, B.R., of the Sank Olav's Medalien, as already announced in MODERN TRANSPORT. The ceremony took place at a luncheon held in his honour, and to mark his retirement, at the Norwegian Embassy in London in June 30. The presentation was made in recognition of Mr. Goring's services to the Norwegian tourist industry. For many years, as stationmaster at Kings Cross, he has been closely connected with tourist traffic to and from Scandinavia, and he has himself travelled widely in Norway.

Mr. F. W. Goring

* * *

Alderman Fred Platt, chairman of Rawtenstall Transport Committee, has been elected chairman of area C of the Municipal Passenger Transport Association.

* * *

Messrs. G. J. Greenslade and W. J. Greenslade having recently retired from active management (but not from the board) of Greenslades' Tours, Limited, of Exeter (now a B.E.T. company), Mr. R. N. Sampson has been appointed general manager, with Mr. W. J. Lang as chief engineer and Mr. E. E. Hartnell as traffic manager.

* * *

Mr. L. F. Leonhardt, general passenger agent in London for the Canadian Pacific Railway, retired on June 30 after 47 years' service with the company. His successor is Mr. R. J. Harden, who, like Mr. Leonhardt, joined the C.P.R. in 1910. Mr. Harden has been general agent, passenger department, since 1946.

* * *

We record with regret the death of Mr. Walter Agg, aged 62. He had been manager of Stratford-upon-Avon Blue Motors, Limited, since control of it was acquired by the Birmingham and Midland Motor Omnibus Co., Limited, in 1931. He had then had a long connection with the road passenger interests of the Balfour Beatty group, having joined the service of the Cheltenham District Light Railways in May, 1910.

* * *

Mr. R. F. J. Surry retired last month from the position of passenger assistant to the chief commercial manager, Southern Region, B.R., which he has held since 1954. He commenced his railway career in 1913 with the London and South Western Railway. In 1938 he was made assistant district superintendent, London West, Southern Railway, then development assistant to the commercial superintendent in 1948.

* * *

Mr. C. N. MacKay has been appointed assistant (public relations) to the general manager, Scottish Region, B.R. Mr. MacKay left an honours course at Glasgow University, where he was reading English language and literature, to take up an appointment on the invitation of Lord Beaverbrook with the Scottish *Daily Express* as dramatic critic. He later became film critic for Scotland and also edited a daily page on entertainment in the Scottish *Daily Express*.

* * *

We regret to record the sudden death of Mr. A. Smith, Scottish director of the Atlas Express Co., Limited, as the result of a motor accident. He was 65. A native of Great Yarmouth, Norfolk, he spent most of his working life in Scotland for which he had a great affection. After L.N.E.R. service, Mr. Smith became manager of the Atlas Express Aberdeen branch in the late 1920s. He became branch manager at Glasgow in 1938 and joined the board the following year. His was an engaging, industrious and cheerful personality that will be greatly missed.

* * *

Mr. Donald Strickland, whose appointment as ocean travel manager, Thos. Cook and Son, Limited, has already been announced, first joined Cooks in 1923 at the Gracechurch Street, branch, where he remained until 1940. Then, when he was chief booking clerk, he joined the Forces and later received a commission in Movement Control. He was demobilised as a major in 1945 after serving in Sudan, Egypt, Palestine, Syria, Lebanon, Transjordan, Italy, Greece and Scotland. On rejoining Cooks he was appointed controller for the southern area, and in June, 1953, he became assistant traffic manager—a position he held until this month.

* * *

We record with regret the death of Mr. J. F. S. Tyler, M.I.C.E., former chief assistant engineer, Southern Railway, who retired in 1933. Mr. Tyler, who was in his 91st year, joined the L.S.W.R. in 1884. From 1885 to 1891 he was engaged as assistant to the resident engineer on main-line widening works, and for the next eight years was employed in the office of the chief engineer as general engineering assistant. From 1889 to 1904 he was resident engineer in charge of various new works, including the Amesbury and Military Camp Light Railway, and the reconstruction of Salisbury Station. He was then for four years resident district engineer for the Somerset and Dorset Railway, and from 1907 to 1914 was engaged in the chief engineer's office in charge of the technical work. Appointed principal assistant to the chief engineer in March, 1914, he was subsequently engaged as district engineer to the chief engineer at headquarters. Following the grouping in 1923, Mr. Tyler was appointed chief assistant engineer, Southern Railway.

IMPORTANT CONTRACTS

Seats for B.O.A.C. Aircraft

THE British Overseas Airways Corporation has placed a contract with Microcell, Limited, for the supply of passenger seating for the corporation's fleet of 15 Boeing 707s which are expected to go into service in 1960. The initial order is for 1,600 seats in the various categories—de luxe sleeper seats, first-class seats and the tourist and economy-class seats that incorporate such features designed by Microcell as tip-up seats and armrests that can be raised. Contracts already awarded by B.O.A.C. to Microcell are for the supply of all passenger seating throughout the Comet 4 fleet, and for the sleeper seat and first-class seating in its Britannia fleet.

Large Foam-Cutting Press

What is claimed to be the largest plastics-foam cutting press ever built for operation in Great Britain has just been installed by Aeropreen Products, Limited, in its new 61,000 sq. ft. factory at High Wycombe. Designed to the company's specification and built by George Cohen, Sons and Co., Limited, Leeds, the press punches out two car seats in one cutting movement. With only two machine minders it has a capacity for turning out 600 car seats per hour.

Orders for Leyland Buses

The Sheffield Joint Omnibus Committee has ordered six Leyland Titan PD2.30 models with synchromesh gearboxes and vacuum-assisted brakes. Equipped for automatic chassis lubrication, they will have Roe bodywork. A number of bus operators has also placed orders for the underfloor-engined range of Tiger Cub single-deckers. It includes Stratford-upon-Avon Blue Motors, Limited, with an order for five, J. T. Whittle and Son, Highley (three), and Thomas Bros. (Port Talbot), Limited (two).

Daimler Double-Deckers for Glasgow

Transport Vehicles (Daimler), Limited, has been successful in securing a substantial part of the recent Glasgow Corporation order for 150 double-deck buses. The specification for the 50 CVG6s, 27 ft. long by 8 ft. wide, to be supplied will include the Daimatic two-pedal semi-automatic gearbox with the fluid flywheel, air-pressure braking system incorporating a dual circuit for safety, latest cold-air induction, glass fibre front end structure. Glasgow Corporation Transport Department already has a Daimatic gearbox with fully automatic control in a 30-ft. Daimler bus which was put into service after being exhibited at the last Scottish Show. As it is Glasgow Corporation's standard practice to make a nightly oil change on each vehicle, the engines will incorporate special fittings to enable this to be carried out.

Eastern Region Contracts

The Eastern Region of British Railways announce that the following contracts have been placed:

Coudson and Son, Limited, Cambridge, for construction of superstructure to small area workshop, construction of latrine unit and provision of connecting drainage between existing septic tanks at central permanent-way depot, Chesterton Junction.

Stanley J. Hails, Limited, Ipswich, for cleaning and painting at Ipswich Station and between Ipswich Tunnel (country end) and fitters' workshops at country end of Ipswich Goods Junction signalbox.

Thomas Fletcher and Co., Limited, Mansfield, for construction of a new railway to Bevercotes Colliery.

Metropolitan-Vickers-G.R.S., Limited, London, for supply and installation of signalling equipment for East Coast main-line widening between Greenwood and Potters Bar, and for the supply and installation of signalling equipment and automatic train control equipment, in connection with the Barking fly-over scheme.

Henry Lees and Co., Limited, Motherwell, for construction of one 200-ton electrically operated locomotive coaling plant at Mexborough.

Scottish Region Contracts

The following are some of the contracts placed recently by the Scottish Region of British Railways:

McKean and Co. (Glasgow), Limited, Glasgow, for the demolition, foundations, walls and drainage at Ladyburn motive power depot, Greenock.

Tilghman's, Limited, Altrincham, for shot-blasting machine at Cowlairs Works, Glasgow.

Blackburn (Dumbarton), Limited, Dumbarton, for earthworks, foundations and drainage at the new Sighthill goods station, Glasgow.

Glasgow Suburban Electrification

Peter Thaw and Sons, Glasgow, for erection of electrical sub-feeder station, Finnieston.

Crowley Russel and Co., Limited, Glasgow, for foundations, inspection pits and road works at Hyndland rolling-stock maintenance depot.

Standard Telephones and Cables, Limited, London, for cabling of telecommunications and supervisory circuits, Airdrie—Helensburgh line and associated branches.

Metropolitan-Vickers-G.R.S., Limited, London, for provision of electric colour-light signalling, Kelvinhaugh—Dalmuir Park via Clydebank Central

Marconi System for Karachi Port

A Marconi v.h.f. radio system has been installed by the Karachi Port Trust to improve the efficiency of the port operation and control the movements of tugs and pilot launches in the harbour and its approaches. Marconi 10-watt frequency-modulated transmitter-receivers arranged for duplex operation have been used throughout. The scheme provides for fixed stations in the offices of the harbour master, dock master and mechanical engineer and five mobile sets fitted in the three tugs and two pilot launches under the control of the harbour authorities. The equipment was supplied through Marconi's agent in Pakistan, International Industries, Limited, and the installation work was carried out with the assistance of the Karachi depot of the Marconi International Marine Communication Co., Limited, which has also secured a maintenance contract.

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FINANCIAL RESULTS

NOTES on the trading results, dividends and financial provisions of companies associated with the transport industry are contained in this feature, together with details of share issues, acquisitions and company formations or reorganisations.

North British Locomotive

Production difficulties in the diesel-engine programme of the North British Locomotive Co., Limited, will result in a trading loss for 1958. This was announced on July 8 by Mr. T. A. Crowe, chairman, in a letter to stockholders. Difficulties have unfortunately been experienced in building up production of the higher-powered North British-M.A.N. diesel engines and North British-Voith transmissions, he explains, and this has delayed the completion of locomotives. The reduced output of locomotives this year will make it impossible to absorb the overhead expenses and, therefore, the year's trading will show a loss.

Nyasaland Railways

Group total receipts of the Nyasaland Railways, Limited, for 1957 were £1,478,309 (£1,403,210). To African works outlay £831,967 (£772,358) and renewals £129,400 (£121,384). Balance after London outgo is £491,666 (£486,922). Dividend is 6 (5) per cent. The possibility of raising fresh capital has been investigated. This will take precedence over ordinary shares. There is now a sinking fund of £17,500 per annum for the 3½ per cent first debenture.

SHIPPING and SHIPBUILDING

London Strike Caused Diversions

HALTING of work in much of the London docks system last month in unofficial support of the Smithfield meat market strike and subsidiary issues caused 132 ships and their cargoes to be diverted elsewhere and it is estimated that altogether work on 200 ships and their cargoes was lost to London docks or wharves. Port workers—who are now threatening a further stoppage in support of their wage claim—were given these facts in a message from the London Dock Labour Board last weekend. So far, it says, trade in the port has been steadily increasing, but there is now definite evidence of a falling-off which must affect the volume of employment and the livelihood of every port worker.

Some foreign lines have indicated their intention to use other ports and large importers of commodities such as fruit, provisions, tobacco and wine have arranged to go elsewhere. There is evidence also of a serious loss of export traffic. A firm of sherry importers, which has traded in the London docks for generations, is now using Southampton, it is stated. Produce which formerly went to Covent Garden is being transferred to smaller ports and will by-pass London. Some ships are going to Shoreham, some to Dover, probably some to the west coast. A greater sense of responsibility must be exercised, the message warns.

Six-day Closure of Colombo

IT is now announced that Colombo port will be closed from midnight on July 25 to August 1 when the Government nationalises the ports. Only urgent export cargoes, Government food cargo, perishable cargo and the stevedoring of scheduled ships or mail steamers will be handled during this period.

Suez Canal Improvements

CONTRACTS entered into by three American companies under a two-year programme to deepen and widen the Suez Canal provide for deepening the canal in certain parts to allow the passage of ships of 37-ft. draft—at present transit is limited to ships of not more than 34-ft. draft—by removing some 35 million cu. m. of sand. The canal will also be widened at certain parts. Total estimated cost of the operations is E£6,368,000.

Hydraulically Operated Hatches

WHAT are claimed to be the first hydraulically operated hatch covers to be designed and built in Britain were demonstrated at the South Durham Iron and Steel works, Stockton-on-Tees, last week. To be installed in a B.I. ship, they can be opened in little over two minutes, it is claimed, by means of an electrically driven pump in the ship's engine-room. The designer was MacGregor and Co. (Naval Architects), Limited, Whitley Bay, in co-operation with Lockheed Automotive Products, Limited.

Tanker Launch on Tyne

LAUNCHED from the Naval Yard, Walker-on-Tyne, of Vickers-Armstrongs (Shipbuilders), Limited, on July 11 and built to the order of Mr. Jorgen P. Jenson, the *Canto* is a motor-driven petroleum tanker of some 16,700 tons gross. Her length overall is 616 ft. and breadth moulded 80 ft. Load deadweight is approximately 25,000 tons. Accommodation arranged for officers, engineers and crew is to a very high standard throughout. Large comfortably furnished rooms are provided for officers in the bridge house and for engineers in the poop deckhouse. The crew are arranged in one- and two-berth rooms abreast the machinery casings on the upper deck. The main propelling machinery consists of a six-cylinder Vickers Doxford oil engine capable of developing a maximum of 7,200 b.h.p., sufficient to provide a service speed of 13 knots loaded.

Indian—U.S. Loan Talks

THE Government of India has opened negotiations with the United States for a loan of Rs.1,000 million for the development of Indian shipping. The loan would be in the form of credit with the Import-Export Bank of America towards the purchase of ships in the United States. This move follows the decision to raise Indian tonnage to 1,000,000 gross registered tons by the end of the second five-year plan period. The plan target is 900,000 tons, of which only 600,000 tons has been attained so far. The Import-Export Bank, it is reported, has offered India a loan of Rs.125 million out of the account credited to Japan. Japan has substantial credit with the bank, most of which is yet to be used. The bank authorities have offered to make over Rs.125 million out of it to India's account, provided India purchases her ships through a Japanese agency.

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TENDERS INVITED

THE following items are extracted from the Board of Trade Special Register Service of Information. Inquiries should be addressed, quoting reference number where given, to the Export Services Branch, Board of Trade, Lacon House, Theobalds Road, London, W.C.1.

July 26—Iraq.—Iraqi State Railways for the supply of SIGNALLING and INTERLOCKING EQUIPMENT for the Standard-gauge crossing stations. Tenders to Director-General of Railways, Baghdad West. (ESB/17237/58.)

July 31—Union of South Africa.—Union Tender and Supplies Board for 1 four-cycle four- or six-cylinder COMPRESSION-IGNITION ENGINE made not earlier than 1946, 1 two-cycle COMPRESSION-IGNITION ENGINE, and 1 four-stroke four-cylinder DIESEL ENGINE. Tenders to the Chairman, Union Tender and Supplies Board, 291 Bosman Street, P.O. Box 371, Pretoria. (ESB/17249/58.)

August 8—Union of South Africa.—Stores Department, South African Railways, for one prototype DIRECTION BOX, 52 DIRECTION BOXES and 5 sets of SPARE COMPONENTS excluding the housings and the anti-friction bearings. Tenders to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. (ESB/17219/58.)

August 15—Iraq.—For 50 10-cwt. PICK-UP CARS for the Directorate-General of Customs and Excise. Specifications may be obtained from the Secretary of the Committee in the Ministry of Finance for 500 fils per copy. Tenders to the President for the Central Foreign Purchase Committee in the Ministry of Finance. (ESB/17331/58.)

August 16—Iran.—Iranian State Railways for 4,000 SEMI-DRY BATTERIES in accordance with existing specifications. These may be obtained from the stores department, Iranian State Railways, Tehran. (ESB/17291/58.)

September 11—Australia.—Western Australian Government for two 3 ft. 6 in. gauge DIESEL-ELECTRIC LOCOMOTIVES for mixed traffic on main line. Copies of the tender documents available from the Agent-General for Western Australia, 115 Strand, London, W.C.2. (ESB/16721/58.)

Dubai.—The Director of Customs in the Government of Dubai, Trucial States, requires some mobile 5-ton CRANES and FORK-LIFT TRUCKS for the Customs area. Manufacturers interested should send specifications, illustrated brochures and quotations C.I.F. Dubai, to the British Political Agency, Dubai, Trucial States, with a copy to the British Residency, Commercial Secretariat, Jufair, Bahrain. (ESB/17532/58.)

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